Supreme Court, U.S.
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No.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1983

ROHM AND HAAS COMPANY,
Petitioner,

v.

CRYSTAL CHEMICAL COMPANY and JOE C. ELLER,
Respondents.

APPENDIX TO PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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283 PP

TABLE OF CONTENTS

	Page
APPENDIX A—District Court's Findings of Fact and Conclusions of Law	1a
APPENDIX B—Court of Appeals' Decision	224a
APPENDIX C—Court of Appeals' Order Granting Appellee's Motion for Extension of Time to File Its Petition for Rehearing	261a
APPENDIX D—Court of Appeals' Order Denying Petition for Rehearing	262a
APPENDIX E—Court of Appeals' Order Staying Issuance of Mandate	263a
APPENDIX F—District Court's Final Judgment	264a
APPENDIX G—Court of Appeals' Decision on Attorney Fees and Costs	268a
APPENDIX H—Court of Appeals' Order Further Staying Issuance of Mandate	280a

APPENDIX A

UNITED STATES DISTRICT COURT
S.D. TEXAS
HOUSTON DIVISION

C.A. No. 74-H-790

ROHM AND HAAS COMPANY

v.

DAWSON CHEMICAL COMPANY, INC., *et al.*

Jan. 5, 1983

Nunc Pro Tunc Order Jan. 5, 1983

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NUNC PRO TUNC ORDER

On October 27, 1982, this Court entered its Findings of Fact and Conclusions of Law in the above-captioned cause. It has come to the attention of the Court that the Findings of Fact and Conclusions of Law entered on October 27, 1982, contained several typographical and non-substantive errors. Hence, to ensure the accuracy

and completeness of the Findings of Fact and Conclusions of Law of October 27, 1982, the Court hereby directs that the attached corrected version of the Findings of Fact and Conclusions of Law be entered. This Order shall relate back to the time of entry of the Findings of Fact and Conclusions of Law of October 27, 1982.

TABLE OF CONTENTS

Page[*]

I. Introduction ..... 749 [4a]

II. Findings of Fact ..... 751 [8a]

A. Parties Involved in this Suit ..... 751 [8a]
The Patent in Suit ..... 752 [9a]

B. Discovery of the Invention ..... 753 [11a]

C. History of Patent in Suit ..... 759 [25a]

1. Rohm and Haas' 1958 Application ..... 759 [25a]
2. Rohm and Haas' 1960 Application ..... 765 [37a]
3. Rohm and Haas' 1961 Application ..... 767 [43a]
4. Interference Proceeding ..... 769 [48a]
5. Litigation Between Monsanto and Rohm and Haas ..... 773 [57a]
6. Renewed Prosecution of 1961 Application ..... 774 [58a]

D. Construction of Patent Claims ..... 783 [78a]

E. Prior Art ..... 785 [82a]

F. Defendants' Propanil Activities ..... 788 [90a]

G. Defendants' Affirmative Defenses ..... 790 [93a]

H. Antitrust Counterclaims ..... 793 [99a]

1. Relevant Market ..... 793 [99a]
2. Bayer-Rohm and Haas Agreements ..... 793 [101a]
3. Rohm and Haas Marketing and Pricing Practices ..... 794 [103a]

[*] The first page number refers to the page as listed in the reported decision. The page number in brackets refers to the page in this Appendix where the item appears.

TABLE OF CONTENTS—Continued

Page

III. Conclusions of Law ..... 799 [113a]
A. Jurisdiction and Venue ..... 799 [113a]
B. Validity of Patent in Suit ..... 799 [114a]
C. Fraud on the Patent Office ..... 810 [135a]
D. Infringement ..... 811 [138a]
E. Should the Supreme Court's Decision Be Applied Only Prospectively? ..... 815 [148a]
F. Personal Liability of Joe Eller ..... 818 [153a]
G. Laches and Estoppel ..... 819 [156a]
H. Antitrust Counterclaims ..... 823 [165a]
1. Statute of Limitations ..... 823 [165a]
2. Defendants' Standing to Assert Their Antitrust Counterclaims ..... 827 [172a]
3. The Bayer-Rohm and Haas Agreements Subject Matter Jurisdiction ..... 830 [179a]
4. Act of State Doctrine ..... 831 [182a]
5. Defendants' Section 1 Counterclaims ..... 833 [185a]
6. Defendants' Monopolization Counterclaims ..... 837 [193a]
7. Defendants' Section 14 Counterclaims ..... 845 [211a]
I. Injunctive and Legal Relief, Attorney's Fees ..... 845 [212a]
Interest ..... 850 [222a]
IV. Conclusion ..... 850 [223a]

FINDINGS OF FACT AND CONCLUSIONS OF LAW

CARL O. BUE, Jr., District Judge.

A brief recapitulation of the procedural history of this litigation may be helpful in placing the multitudinous and complex issues under consideration into proper perspective.

I. *Introduction*

On the day of the issuance of United States Patent 3,816,092, June 11, 1974, plaintiff Rohm and Haas Company (hereinafter Rohm and Haas), commenced this action against the Helena Chemical Company (unless indicated otherwise, hereinafter Helena), Crystal Chemical Company, Dawson Chemical Company, and Crystal Manufacturing Corporation (unless indicated otherwise, hereinafter Crystal), alleging that defendants contributorily infringed and actively induced others to infringe United States Patent 3,816,092.

The defendants filed answers denying infringement and contending also that Rohm and Haas' patent was invalid and unenforceable. Defendants Crystal and Helena filed also a counterclaim alleging that Rohm and Haas had violated various sections of the antitrust laws. Specifically, defendants alleged that Rohm and Haas had violated sections 1, 2 of the Sherman Act, and section 3 of the Clayton Act, 15 U.S.C. §§ 1, 2, 14 (1973 & Supp. 1982). In addition, Helena counterclaimed for a declaratory judgment that plaintiff's patent was invalid, unenforceable and not infringed.[1]

Shortly, after the commencement of this cause, the defendants took the position that the Rohm and Haas patent was unenforceable as a result of Rohm and Haas' alleged misuse of its patent. Subsequently, the parties entered into a stipulation of facts which was filed in this cause on October 31, 1974, *see* Plaintiff's Exhibit 21, and thereafter filed cross-motions for partial summary judgment seeking to resolve the threshold issue of patent misuse.

On August 10, 1976, this Court entered its Memorandum and Opinion granting defendants' motions for partial summary judgment "only insofar as they seek

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[1] In its Third Amended Answer filed on December 22, 1980, Helena withdrew both of these counterclaims.

adjudication of the legality of plaintiff's monopolization of the sale of propanil, but [denying defendants' motions] to the extent that they seek dismissal of plaintiffs complaint." *See Rohm and Haas Co. v. Dawson Chemical Co., Inc.*, 191 U.S.P.Q. 691, 695 (S.D. Tex. 1976). Shortly thereafter, defendants moved the Court to reconsider its decision not to dismiss Rohm and Haas' complaint. On November 23, 1976, the Court granted defendants' motions and dismissed this cause "without prejudice to plaintiff's right to re-file upon sufficient showing that it has purged its misuse."

Thereafter, Rohm and Haas appealed the various rulings of this Court and on July 30, 1979, the United States Court of Appeals for the Fifth Circuit reversed this Court's decision and remanded this case to this Court for further proceedings. *See Rohm and Haas Co. v. Dawson Chemical Co.*, 599 F.2d 685 (5th Cir. 1979). On June 27, 1980, the United States Supreme Court affirmed the Fifth Circuit's decision. *See Dawson Chemical Co. v. Rohm and Haas Co.*, 448 U.S. 176, 100 S.Ct. 2601, 65 L.Ed.2d 696 (1980).

On September 18, 1980, Rohm and Haas filed suit against Vertac Chemical Company (hereinafter Vertac) in the United States District Court for the District of Delaware alleging that Vertac contributorily infringed and actively induced others to infringe United States Patent 3,816,092. Plaintiff's Exhibit 26.

On November 3, 1980, Rohm and Haas was permitted to amend its complaint in the case *sub judice* to add Joe C. Eller (hereinafter Eller) and Wilton W. Vardeman (hereinafter Vardeman) as individual party defendants. Rohm and Haas alleged that Eller and Vardeman were contributorily infringing and actively inducing others to infringe its patent. Additionally, in its amended complaint Rohm and Haas particularlized its claim for damages. Plaintiff's Exhibit 22. In addition to filing an answer denying the claims asserted against

them, Eller and Vardeman filed counterclaims alleging that Rohm and Haas had violated Sections 1, 2 of the Sherman Act, and section 3 of the Clayton Act, 15 U.S.C. §§ 1, 2, 14 (1973 & Supp. 1982). Plaintiff's Exhibit 22.

While the Delaware action against Vertac was pending, Helena filed a third-party complaint against Vertac in the instant cause. Subsequently, on February 10, 1981, Rohm and Haas filed a complaint against Vertac raising essentially the same allegations it had advanced in the Delaware action. Plaintiff's Exhibit 22. Vertac then filed its answer and asserted counterclaims and defenses similar to those asserted by Crystal.

On November 12, 1980, plaintiff filed a separate suit in this Court against American Rice Growers Exchange (hereinafter ARGE), alleging that ARGE contributorily infringed and actively induced infringement of its patent. ARGE thereafter filed its answer and also advanced counterclaims asserting violations of various sections of the Sherman Act. Plaintiff's Exhibit 22. On January 14, 1981, this Court, at the request of all parties to this cause, consolidated the instant case with the separately filed suit against ARGE for both discovery and trial pursuant to Rule 42(a), Fed.R.Civ.P.

On September 1, 1981 the parties filed and this Court approved a stipulation wherein all claims brought by Rohm and Haas against Vardeman were dismissed with prejudice. Pursuant also to the stipulation, Vardeman's counterclaims against Rohm and Haas were dismissed with prejudice.

On September 24, 1981, Crystal filed a Voluntary Petition in Bankruptcy under Chapter 7, Title 11 of the United States Code, 11 U.S.C. § 701 *et seq.* (1979), and at the time of trial the bankruptcy action was still pending before the United States Bankruptcy Court for the Southern District of Texas, Houston Division.

Pursuant to an Order entered by the Bankruptcy Court, the automatic stay provision of 11 U.S.C. § 362 (1979) was modified to permit Crystal to participate in this case.

Shortly before the commencement of the trial of the case *sub judice*, Rohm and Haas and Helena entered into a settlement agreement thereby resolving their differences with respect to the patent in suit. In partial consideration for the settlement of the suit against it, Helena agreed to this Court's entry of a consent decree and injunction. Plaintiff's Exhibit 135; Defendant's Exhibit 293. Subsequently, during the trial of this cause, Rohm and Haas and Vertac settled all of the issues outstanding between them, Plaintiff's Exhibit 143, and the suit with respect to Vertac was dismissed on December 8, 1981. In an Order entered by the Court pursuant to the consent of Helena and Vertac, Helena's third party action against Vertac was also dismissed.

The cause was tried to the Court sitting without a jury from November 2, 1981 to January 7, 1982.[2] Subsequently, on April 2, and April 6-8, 1982, the record was reopened to permit the introduction of additional evidence. At the conclusion of the evidence, the Court requested additional briefing by the parties and took the

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[2] Prior to the commencement of the trial of this cause in November, 1981, all of the parties filed motions to dismiss and motions for summary judgment. Subsequently, the Court held a conference in chambers with counsel for all parties in attendance. The conference was held for the purpose of affording counsel an opportunity to present oral argument on the various motions pending before the Court. Because of the complexity of the factual and legal issues raised by the motions,, the Court informed the parties after the presentation of their oral arguments that it would defer ruling on the dispositive motions, and would instead carry the motions with the case. The Findings of Fact and Conclusions of Law of this Court set forth above address the issues raised by those motions as such issues affect the merits of the case. Of course, those motions which the Court took under consideration were filed by parties who have since been dismissed from this case are denied as moot.

case under advisement. Pursuant to Rule 52(a), Fed.R. Civ.P., the Court hereby enters its Findings of Fact and Conclusions of Law detailing the reasons for its conclusion that United States Patent 3,816,092 is valid, enforceable and was infringed by defendants Crystal, Eller and ARGE, and that as a consequence thereof Rohm and Haas is entitled to an accounting as well as injunctive and monetary relief. The following Findings of Fact and Conclusions of Law reflect also the Court's decisions that defendants have failed to sustain their burden of proving that Rohm and Haas violated sections 1, 2 of the Sherman Act, and section 3 of the Clayton Act, 15 U.S.C. §§ 1, 2, 14 (1973 & Supp. 1982), and that as a consequence thereof Rohm and Haas should prevail.

II. *Findings of Fact*

A. *The Parties Involved in this Suit*

1. Plaintiff Rohm and Haas Company is a Delaware corporation with its principal place of business in Philadelphia, Pennsylvania. Admission of Fact.

2. Defendant Crystal Chemical Company is a Texas corporation with its principal place of business in Houston, Harris County, Texas. Admission of Fact.

3. Defendants Dawson Chemical Company and Crystal Manufacturing Corporation were at one time corporations organized and existing under the laws of the State of Texas. Dawson Chemical Company and Crystal Manufacturing Corporation were subsidiaries of Crystal Chemical Company, Inc. In 1977, Crystal Chemical Company, Inc. was merged into Crystal Manufacturing Corporation, and the name of the surviving corporation was then changed to Crystal Chemical Company. Since the commencement of this cause, neither Dawson Chemical Company nor Crystal Manufacturing Corporation has been active in the manufacture, sale or use of propanil. The labels under which the allegedly infringing product

is sold by Crystal Chemical Company, however, are registered in the name of Dawson Chemical Company. Admission of Fact; Testimony of Joe Eller; Plaintiff's Exhibits 17, 22.

4. Defendant Joe Eller is a resident of Houston, Harris County, Texas. Since 1974 Eller has been the Chairman of the Board and Chief Executive Officer of Crystal Chemical Company, Dawson Chemical Company and Crystal Manufacturing Company. Admission of Fact; Testimony of Joe Eller; Plaintiff's Exhibits 22, 73-75.

5. Defendant American Rice Growers Exchange is a Louisiana corporation authorized to do business in the State of Texas. Admission of Fact; Testimony of Barry Jeffrey; Plaintiff's Exhibits 17, 22; Defendants' Exhibits 187, 188.

The Patent in Suit

6. United States Patent 3,816,092 (unless indicated otherwise, hereinafter Wilson patent), issued on June 11, 1974 naming Drs. Harold F. Wilson and Dougal H. McRae as the inventors. The patent was and is assigned to Rohm and Haas, and Rohm and Haas has been the sole owner of all rights, title and interest in the Wilson patent since its issuance. Admission of Fact; Plaintiff's Exhibit 1. The Wilson patent issued from application Serial Number 96,089 filed with the United States Patent and Trademark Office on March 16, 1961. The 96,089 application was a division of Serial Number 31,253 filed May 24, 1960 which in turn was a continuation-in-part of Serial Number 714,947 filed February 13, 1958. Plaintiff's Exhibits 1-4. The claims of United States Patent 3,816,092 are as follows:

> 1. A method for selectively inhibiting growth of undesirable plants in an area containing growing undesirable plants in an established crop, which comprises applying to said area 3,4-dichloropropionani-

lide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said established crop.

2. The method according to claim 1 wherein the 3,4-dichloropropionanilide is applied in a composition comprising 3,4-dichloropropionanilide and an inert diluent therefor at a rate of between 0.5 and 6 pounds of 3,4-dichloropropionanilide per acre.

3. The method according to claim 1 wherein most of the undesirable plants are destroyed by the 3-4-dichloropropionanilide applied thereto without substantial adverse effect on the crop growing therewith.

4. The method according to claim 1 wherein the established crop is tomatoes.

5. The method according to claim 1 wherein the established crop is potatoes.

6. The method according to claim 2 wherein the established crop is monocotyledonous.

7. The method according to claim 2 wherein the established crop is dicotyledonous.

8. The method according to claim 2 wherein the undesirable plants include monocotyledonous plants.

9. The method according to claim 2 wherein the undesirable plants include dicotyledonous plants.

10. The method according to claim 2 wherein the established crop is a grain crop.

11. The method according to claim 2 wherein the undesirable plants include barnyardgrass.

12. A method for selectively inhibiting the growth of growing, tender, undesirable, annual plants which are susceptible to 3,4-dichloropropionanilide, said undesirable plants growing in an area containing an

established monocotyledonous crop which is resistant to 3,4-dichloropropionanilide, which comprises applying to said undesirable plants a composition comprising 3,4-dichloropropionanilide and an inert carrier therefor at a rate of application which inhibits growth of said undesirable plants and which does not substantially affect the growth of said established monocotyledonous crop.

Plaintiff's Exhibit 1.

B. *The Discovery of the Invention*

7. Dr. Dougal H. McRae came to work at Rohm and Haas in September, 1953 for the purpose of establishing and developing a herbicide program. Prior to his arrival, Rohm and Haas did not have a herbicide program. Rather, Rohm and Haas had programs specializing in insecticides, fungicides, and industrial biocides. Testimony of Dougal McRae.

8. By early 1955, Dr. Harold F. Wilson, formerly a synthesis chemist in Rohm and Haas' insecticide program, became directly responsible for the synthesis of compounds to be tested in a herbicidal screening program under the direction of McRae. Wilson supervised the preparation of the chemical compounds for use in the program. Testimony of Dougal McRae; Plaintiff's Exhibit 141 (Deposition Testimony of Harold Wilson). Compounds that were found to have a sufficient herbicidal effect in the greenhouse were then selected and field tested by McRae to see if such compounds also exhibited selective herbicidal properties. Testimony of Dougal McRae; Plaintiff's Exhibit 141 (Deposition Testimony of Harold Wilson). From the beginning of the herbicide program, primary emphasis was placed on selective, post-emergence herbicidal activity, in particular to the control of monocot weeds. Testimony of Dougal McRae; Plaintiff's Exhibit 127.

9. During the initial stages of the development of Rohm and Haas' herbicide research program, dichlorophenoxyacetic acids were becoming established as being very effective herbicides against broadleaf plants. Testimony of Dougal McRae. Rohm and Haas' research policy at that time was to work from a lead compound, and prepare the homologs, isomers and analogs of the lead compound and check their activity. Testimony of Dougal McRae.

10. In 1955, it was Rohm and Haas' practice to send certain chemical compounds which it had made to the United States Chemical Biological Coordination Center (hereinafter CBCC). Apparently, the compounds were then tested and evaluated in a plant growth regulatory program conducted by CBCC. Testimony of Dougal McRae.

11. In 1955, Dr. McRae received a report from the CBCC containing the results of plant growth regulatory tests and evaluations conducted on 633 compounds including three amides, one of which was cyclohexylmethacrylamide. The report contained also test results which suggested to McRae and Wilson that certain chloroanilides might be a likely area for herbicidal investigation. Testimony of Dougal McRae; Plaintiff's Exhibit 127; Defendants' Exhibits 11, 14, 322.

12. McRae and Wilson decided to include in their herbicide screening program a series of compounds related to the compounds suggested in the CBCC report in the hope that such compounds would display herbicidal activity. Two compounds, 4-chloromethacryanilide and 3,4-dichloromethacrylanilide, were tested and found to have good herbicidal activity, and further work showed that saturated chloroanilides also displayed activity. Testimony of Dougal McRae; Plaintiff's Exhibits 127, 141 (Deposition Testimony of Harold Wilson); Defendants' Exhibits 11, 14.

13. 3,4-dichloropropionanilide (hereinafter propanil) was first made in approximately February, 1957 and the chemical was assigned the code-name FW-734. Testimony of Dougal McRae; Plaintiff's Exhibits 127, 128; Defendants' Exhibits 11, 14. McRae first tested propanil as a herbicide in the greenhouse in February and March, 1957. The greenhouse tests showed propanil to have high post-emergence herbicidal activity as opposed to insignificant or negligible pre-emergence activity. Testimony of Dougal McRae; Plaintiff's Exhibits 127, 128; Defendants' Exhibits 11, 14.

14. On April 3, 1957, Wilson and McRae attended a meeting with Drs. Lyon and Craig, two senior employees of Rohm and Haas. At this meeting, Wilson and McRae discussed propanil and its herbicidal activity, and as a result of initial testing on monocots and dicots in which propanil exhibited the highest level of activity of those compounds tested, it was decided to prepare a substantial quantity of propanil along with three other chloroanilides, specifically, 4 chloromethacrylanilide, propionanlide, and 4 dichloropropionanilide. These compounds would then be field tested by post-emergence applications at Rohm and Haas' field test farm in Newtown, Pennsylvania. Testimony of Dougal McRae; Plaintiff's Exhibits 127, 141 (Deposition Testimony of Harold Wilson) ; Defendants' Exhibit 1.

15. On April 4, 1957, Wilson prepared a report summarizing the events which occurred at the April 3, 1957 meeting. The report records the inventors' decision to make substantial quantities of propanil and to field test it in post-emergence applications at Rohm and Haas' field test farm. This report sets forth the inventors' concept that propanil might be more selective than dinitrophenol compounds. Testimony of Dougal McRae; Plaintiff's Exhibits 127, 141 (Deposition Testimony of

Harold Wilson); Defendants' Exhibit 1. *See also* Defendants' Exhibit 5.

16. The tests were proposed to begin in the summer of 1957. Included within those tests that were to be conducted were post-emergence tests on corn and beans at the come-up stage[3] and a test on cotton and corn at the lay-by stage.[4] Testimony of Dougal McRae; Plaintiff's Exhibits 127, 129; Defendants' Exhibit 1. The inventors did not intend at the April 3, 1957 meeting to limit propanil's evaluation to just these tests, nor does the contemporaneously prepared report reflect such an intent. Testimony of Dougal McRae; Plaintiff's Exhibit 127; Defendants' Exhibit 1.

17. Pursuant to the April 3 decision to field test propanil, significant quantities of propanil and the other compounds mentioned previously were prepared during April and the early part of May. Crops for the initial test were planted on May 8th and treated with propanil on May 29, 1957. Thereafter, McRae conducted additional tests of propanil on other crops, including tests on tomatoes and potatoes. All of these tests were carried out pursuant to the conception of propanil's selective, post-emergence herbicidal activity on April 3, 1957 as embodied in the memorandum prepared by Wilson on April 4, 1957. Testimony of Dougal McRae; Plaintiff's Exhibits 11, 127, 129. Defendants' Exhibit 1.

18. Although the initial tests on corn and beans did not confirm propanil's selectivity, McRae continued to con-

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[3] The term "come-up" was at one time commonly used to describe an early stage of growth when the plant was emerged from the ground. Testimony of Dougal McRae.

[4] The term "lay by" was at one time commonly used to describe that stage of growth at which a crop could no longer be cultivated by machinery without damaging the crop. Testimony of Dougal McRae. Plants at the "lay by" stage are in an advanced stage of growth. Testimony of Rupert Palmer.

duct field tests of propanil and the other compounds throughout the Summer of 1957. Testimony of Dougal McRae. By the fall of 1957, McRae had applied propanil to such crops as corn, beans, cotton, tomatoes, potatoes, clover, strawberies, turf grasses and in orchards. These tests showed that propanil was highly active against a wide variety of weeds while at the same time tomatoes, potatoes, strawberries, turf grasses, clover, corn, cotton and the plants in these orchards tested were tolerant to propanil applied at weed killing rates. Testimony of Dougal McRae; Plaintiff's Exhibits 4, 11, 12D, 12N, 53-55, 121, 127; Defendants' Exhibits 2, 11, 14. *See also* Defendants' Exhibit 330.

19. The results of these tests revealed that the anilides tested did not exhibit satisfactory pre-emergence herbicidal activity. The results revealed further that propanil was the most phytotoxic of the anilides tested through post-emergent applications and exhibited good herbicidal activity against both dicots and monocot weed species at low rates of application. Propanil was found also to have the most effective control when applied to weeds in the seedling stage, although it was effective also on more mature weeds. Specifically, McRae discovered that propanil was phytotoxic to annual monocots and dicots such as crabgrass, foxtail, millet, red root, tumbling pigweeds, lamb's quarter, purslane, ragweed, smartweed, plantain, chickweed, and scarlet pimpernel, but did not exhibit herbicidal activity against perennial monocots in the tests which were conducted. McRae suggested that further studies be conducted in order to draw a more informed conclusion. MacRae recommended further that tests on biennial or perennial dicots be run. Testimony of Dougal McRae; Defendants' Exhibit 5.

As to the effect of propanil when applied to crops, McRae found:

> 16. Tomato plants were injured fairly severely by FW-734 at an application rate of 4 lb./A. Injury was not serious at 2 lb./A. and results obtained in-

dicated that tomatoes might be tolerant to FW-734 at rates below 2 lb./A. In any event, further work should be carried out on tomatoes since it is a crop in which directed sprays can be applied between the plant rows, thereby minimizing the danger of excessive foliar contact and consequent injury.

17. Corn and snap beans in the seedling stage were severely injured by FW-734.

18. Well established field corn and cotton were tolerant to sprays of FW-734 directed toward the base of the plants. Present evidence indicates that most well established crops should be quite tolerant to FW-734. Consequently, FW-734 should be tested in situations where crops have reached a relatively large size but weeds are small. For example, if crops have been kept weed-free from time of planting for a month or two by cultivation or through use of pre-emergence herbicides, there is a high probability that many crops would be tolerant to FW-734. The important point to remember is that FW-734 should not be applied until after new weeds have germinated.

19. Strawberry plants treated after the fruiting season were tolerant to FW-734. An application rate of 6 lbs./A. caused slight foliar burn but lower rates did not produce visible injury.

20. The limited available evidence indicates that most, if not all dormant crops should be tolerant to FW-734. Consequently, the compound should be tested for control of winter annual weeds (e.g. chickweed) in crops such as alfalfa during the dormant season of the crop.

Defendants' Exhibit 5. *See also* Testimony of Dougal McRae.

20. These outstanding results obtained during the summer of 1957 led Wilson and McRae to request on

October 25, 1957, the preparation of a patent claiming propanil and 3,4 dichloroisobutyranilide as new compounds, based upon their activity as herbicides. Plaintiff's Exhibit 127; Defendants' Exhibit 3. On December 10, 1957, Wilson forwarded to Rohm and Haas' patent department a memo containing additional weed control data on the two aforementioned compounds and other closely related compounds. Plaintiff's Exhibit 127; Defendants' Exhibit 4. Rohm and Haas' patent department then prepared a patent application which was filed in February, 1958. This application claimed not only the two compounds suggested by Wilson but also 3,4 dichloro-a-methylvaleranilide. Testimony of Dougal McRae; Plaintiff's Exhibit 4.

21. Shortly after the 1957 herbicide field tests were completed, the inventors recognized that propanil exhibited considerable potential as a post-emergence herbicide, and decisions relating to future work were made. Propanil was rapidly advanced to the development stage and large quantities of propanil were made for testing in the States of California and Florida during the Fall and Winter of 1957. Testimony of Dougal McRae. Additionally, McRae conducted further tests in the greenhouse in the latter part of 1957 and early part of 1958. As the result of these tests, McRae obtained evidence of the post-emergence selectivity of propanil in wheat. Testimony of Dougal McRae; Plaintiff's Exhibit 127, 128. *See also* Plaintiff's Exhibit 122.

22. After the completion of the summer field tests, McRae suggested in the fall of 1957 that propanil be advanced to the developmental stage. Testimony of Dougal McRae; Plaintiff's Exhibit 127; Defendants' Exhibit 2.

23. In 1957 and 1958, it was standard practice for Rohm and Haas to send to experimentors in the United States and abroad chemicals which Rohm and Haas' own work had shown to have promise as useful, commercial

chemicals. Agricultural chemicals were usually sent out with a statement as to their intended utility, and it was only after Rohm and Haas itself had established a utility that a compound was sent out. Rohm and Haas followed the practice of providing recipients of its chemical samples with whatever technical bulletins or other pertinent information it had at the time. As part of this procedure, agricultural chemical compounds were tested in foreign countries, including Japan, Canada, France and England, to ascertain the effect of differences in local crops, climates and practices. This practice was common in the industry and allowed rapid development of valuable information of the chemical's properties under local climates, soils and cultural practices as well as on local crops and weeds. Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibits 19, 120, 127.

24. In late 1957 or early 1958, McRae was informed that propanil was being sent to Rohm and Haas' representative in Japan for further testing. Testimony of Dougal McRae.

25. In the late 1950's, Sanyo Trading Company (hereinafter Sanyo) was an independent sales agency. During that time, Sanyo was also Rohm and Haas' agent in Japan. Plaintiff's Exhibit 19; Defendants' Exhibit 252. Prior to 1958, Rohm and Haas had sent a sample of one of its chemical compounds, such compound had been code named FW-450, to Sanyo for evaluation as a herbicide. Plaintiff's Exhibit 19. Sanyo then forwarded the sample to Dr. Tetsuo Takematsu for testing. These tests included evaluation of the compound as a herbicide for weed control in rice crops, a major economic crop in Japan. Testimony of Ruppert Palmer; Plaintiff's Exhibit 19; Defendants' Exhibit 252. Takematsu's results pertaining to FW-450 were reported to Sanyo which in turn reported the results to Rohm and Haas. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

26. In a letter dated March 31, 1958, Rohm and Haas informed Sanyo that it would soon forward an experimental herbicide known as FW-734 for Sanyo's evaluation. The letter stated that FW-734 appeared very interesting as a post-emergent herbicide on monocot and dicot weed species, and was highly effective at relatively low application rates. The letter stated further that technical information would be provided along with the compound. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

27. On April 28, 1958, Rohm and Haas sent Sanyo 25 gallons of FW-734, or propanil. In a letter informing Sanyo of the shipment, Rohm and Haas stressed its desire to have the herbicide thoroughly tested in Japan during the summer of 1958. Enclosed in the letter was a summary of the technical information on propanil referred to in Rohm and Haas' letter of March 31, 1958. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

28. Any thorough testing of a herbicide in Japan would necessarily include testing on rice as Takematsu had done with FW-450. Testimony of Ruppert Palmer; Testimony of Ford Baldwin; Plaintiff's Exhibit 19; Defendants' Exhibit 252.

29. On May 22, 1958, Sanyo acknowledged receipt of the 25 gallon sample of propanil furnished by Rohm and Haas. Sanyo advised Rohm and Haas that arrangements were being made to conduct experimental testing of propanil in cooperation with research members of agricultural field laboratories and universities, and that Takematsu, a Professor at Utsunomiya University, had alread begun the evaluation of the compound provided by Rohm and Haas. Plaintiff's Exhibit 19; Defendants' Exhibits 195, 252. Sanyo informed Rohm and Haas also that the following experiments would be conducted on propanil during the summer: (1) effect for soil treatment; (2) killing action of young weeds in the field; (3) killing action of weeds in paddy-fields; (4) decomposition

and translocation in soil; and (5) phytotoxicity against crops. Plaintiff's Exhibit 19; Defendants' Exhibit 252. Sanyo solicited further suggestions and available experimental data from Rohm and Haas and stated that the results of the experimental testing on propanil would be forwarded immediately to Rohm and Haas. Plaintiff's Exhibit 19; Defendants' Exhibits 195, 252.

30. In addition to providing Takematsu with a sample of propanil, Sanyo had provided Takematsu with a Rohm and Haas technical bulletin entitled "Herbicide FW-734 (3,4 Dichloropropionanilide)". This bulletin advised that propanil had been evaluated by Rohm and Haas under field conditions during the Summer of 1957, and that propanil displayed good herbicidal activity against both dicot and monocot weeds at low rates of application. Specifically, the technical bulletin reported the following with respect to propanil's effect on various weed species:

> FW-734 did not exhibit herbicidal activity against perennial monocots in the limited tests carried out. Available evidence indicates that FW-734 does not translocate downward readily in monocots. However, further studies are required to clarify this point.
>
> FW-734 was effective against many annual dicot weed species. However, a certain degree of tolerance was exhibited in certain dicots which indicates a possibility of selectivity among these species.
>
> Little information was obtained with respect to the activity of FW-734 against bi-annual or perennial dicots.
>
> FW-734 was most effective when applied to weeds in the seedling stage, although its activity was quite evident on more mature weeds. As with most herbicides, the most efficient control was obtained when FW-734 was applied to weeds in the early stages of growth.

FW-734 as a post-emergence herbicide, effectively controlled all annual and dicot weeds present in herbicide plots. The weeds controlled were:

Crab grass	Purslane
Fox tail	Ragweed
Millet	Smartweed
Redroot	Plantain
Tumbling pigs weed	Chickweed
Lamb's quarter	Scarlet pimpernel

Plaintiff's Exhibit 19; Defendants' Exhibit 252. The technical bulletin stated also that the most marked evidence for selectivity was obtained in potatoes, while injury to tomatoes was not serious at two pounds per acre. Field corn, cotton and strawberry plants were also said to be tolerant to propanil. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

31. Rohm and Haas, through Sanyo, paid Takematsu 40,000 Japanese yen, approximately $120.00, on July 4, 1958 for tests he conducted on propanil and a product called VAPAM. Plaintiff's Exhibit 19; Defendants' Exhibit 252. The amount paid Takematsu by Rohm and Haas was reasonable at the time for the type of testing that Takematsu had performed. Testimony of Ruppert Palmer.

32. On or about July 3, 1958, a preliminary report of Takematsu's work was forwarded to Rohm and Haas by Sanyo. Takematsu's experiments revealed that propanil caused no injury against dry-land rice when applied in post-emergent treatments. Plaintiff's Exhibit 19; Defendants' Exhibits 292, 323. *See also* Defendants' Exhibit 6.

33. McRae first learned of the results of Takematsu's testing of propanil in the winter of 1958/1959. Testimony of Dougal McRae. By this time, the results of field test-

ing that McRae had conducted in the summer of 1958 revealed that propanil demonstrated selective, post-emergence herbicidal activity for propanil in grain crops, including barley, wheat, oats, and rye. Testimony of Dougal McRae; Plaintiff's Exhibits 122, 128. *See also* Testimony of Ruppert Palmer. Testing of propanil conducted by McRae in 1957 had demonstrated that propanil killed barnyard grass, a monocot; such information was reported in Rohm and Haas' 1958 application. Plaintiff's Exhibit 4. *See also* Testimony of Dougal McRae.

34. After Rohm and Haas received the results of Takematsu's experiments showing the selective, post-emergence herbicidal effect of the propanil supplied by it, rice seed was obtained and rice, a cereal crop, was grown in Rohm and Haas' herbicide research greenhouses. Testimony of Dougal McRae.

35. In February, 1959, Rohm and Haas conducted greenhouse tests of propanil and seven other compounds on rice. The test results revealed that rice had a tolerance to propanil. Testimony of Dougal McRae; Plaintiff's Exhibit 125.

36. In January, 1959, Takematsu and Marota Konnai published a booklet containing the results of their work with propanil on rice. The title of the Japanese booklet, translated to English, is "Fundamental Research on the Chemical Weed Control in Arable Land". Plaintiff's Exhibit 19; Defendants' Exhibits 252, 323. At least 125 copies of the booklet were made in Japan before January 16, 1959; such copies were made by a mechanical copy-making technique. Approximately 100 copies of the booklet were handed out to participants during a conference entitled "Conference for Investigation of Test Results of Herbicides Relating to Summer Crop for the Fiscal Year 1958". The conference was held under the auspicies of the Japanese Ministry of Agriculture and Forestry in Tokyo, Japan on January 16 and 17, 1959. The confer-

ence was attended by over 100 persons composed of Japanese government personnel and Japanese university and industry personnel interested in herbicides and the use thereof. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

37. In January, 1959, at least one copy of Takematsu's booklet was received by the Research Institute of Ihara Noyaku Co., Ltd. in Japan and circulated to members of the Institute. The booklet was deposited then in the Institute's library. Plaintiff's Exhibit 19; Defendants' Exhibit 252.

38. After obtaining the results of the greenhouse tests of propanil on rice in early 1959, Plaintiff's Exhibit 125, McRae contacted Dr. Shaw, an employee of the United States Department of Agriculture (hereinafter USDA), who was in charge of USDA scientists testing herbicides. McRae contacted Shaw for the purpose of soliciting Shaw's recommendation of a researcher in the United States who could conduct further tests on rice. Shaw referred McRae to Dr. Roy Smith, an employee of the USDA, whom Shaw contended was the foremost investigator in the field of rice. Testimony of Dougal McRae.

39. Smith was first contacted by McRae in approximately March or April of 1959, and it was requested that he test propanil. Testimony of Dougal McRae; Plaintiff's Exhibit 125; Defendants' Exhibit 18. By June 1959, Smith had conducted preliminary tests on propanil and reported that propanil controlled barnyard grass without injuring rice. Plaintiff's Exhibit 123. Smith continued his field tests of propanil with such outstanding results that, after receiving Rohm and Haas' permission to disclose the chemical formula of propanil, he reported his findings at the Southern Weed Conference held in late January of 1960 in Biloxi, Mississippi. Testimony of Dougal McRae; Plaintiff's Exhibits 59, 123. *See* Plaintiff's Exhibit 34.

40. In January, 1960, Dr. Gordon Brandes, an employee of Rohm and Haas, contacted Smith and several other persons around the country for the purpose of conducting additional field tests of propanil on rice during the 1960 rice growing season. Testimony of Gordon Brandes; Testimony of Dougal McRae. The results of the field tests conducted by the experimentors in 1960 confirmed early findings that propanil was very effective in the control of barnyard grass and other weeds without injury to rice. Testimony of Gordon Brandes.

41. In 1961, Rohm and Haas began marketing propanil commercially, and propanil was registered with the appropriate federal agencies. Testimony of Gordon Brandes; Testimony of Dougal McRae. Rohm and Haas began in 1961 and continues to this day to sell propanil products as selective, post-emergence herbicides for the control of weeds growing in rice under the brand names STAM F-34, STAM M-4 and STAM LV-10. Testimony of Gordon Brandes; Plaintiff's Exhibits 49, 50, 55-60, 101, 104-107; Defendants' Exhibits 147, 292.

42. Immediately upon its introduction in 1961, propanil had a substantial impact on the rice industry. More than twenty years later, propanil remains an integral part of the methodology employed by rice farmers to control weeds growing in rice. Testimony of Ford Baldwin; Testimony of Gordon Brandes; Testimony of Bill Fagala; Testimony of Barry Jeffrey; Testimony of Ruppert Palmer; Plaintiff's Exhibits 18 (Deposition Testimony of Bobby Joe Pace), 34, 36, 39, 47, 50, 117.

43. Propanil has been directly responsible for increases in the yield of rice per acre from 35% to as much as 65% by eliminating barnyard grass, the major destructive weed competing with young rice plants. Prior to propanil, there was no practical way of controlling this weed. Testimony of Ford Baldwin; Testimony of Gordon Brandes; Testimony of Bill Fagala; Testimony of Barry Jeffrey; Testimony of Ruppert Palmer; Plaintiff's Ex-

hibits 18 (Deposition Testimony of Bobby Joe Pace), 39, 41-44, 46, 47, 49, 50, 52, 117.

In addition to eliminating barnyard grass and other weeds, propanil allowed farmers to use new, more productive varieties of rice, plant rice at lower levels, decrease water usage and utilize fertilizer more efficiently. Propanil also made easier the harvesting, drying and cleaning of rice. Testimony of Gordon Brandes; Testimony of Bill Fagala; Testimony of Ruppert Palmer; Plaintiff's Exhibits 34, 36, 37, 41-44, 46, 47, 49, 50, 52, 58.

44. Since 1961, Rohm and Haas' domestic sales of propanil to control weeds growing in rice have exceeded 200 million pounds and 170 million dollars, while its foreign sales have exceeded 91 million pounds and 67 million dollars. Since the issuance of the patent in suit, yearly domestic sales of propanil have averaged approximately 12 million dollars. Testimony of James Underwood; Plaintiff's Exhibits 114, 116, 118, 142, 161. These sales have been accomplished with a minimum amount of advertising. Testimony of William Ambrogi.

45. Rohm and Haas sells herbicidal propanil also under the trade name Stampede for the control of weeds in oats, barley and wheat. Testimony of Gordon Brandes; Plaintiff's Exhibits 101, 103. Sales of Stampede have exceeded 3 million dollars. Testimony of James Underwood; Plaintiff's Exhibits 103, 118.

C. *The History of the Patent in Suit*

1. *Rohm and Haas' 1958 Application*

46. On February 13, 1958, Wilson and McRae filed an application in the Patent and Trademark Office, serial number 714,947, describing three herbicidal compounds, the 3-4 dichloroanilides of propionic, isobutyric, and also

a-methylvaleric acids.[5] Plaintiff's Exhibit 4. One of the herbicidal compounds described in the application bears the chemical name "3,4-dichloropropionanilide", *i.e.*, pro-

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[5] Specifically, the 1958 application contained the following claims:

1. As new compounds, 3,4-dichloroanilides from the class consisting of 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide.

2. 3,4-Dichloropropionanilide.

3. 3,4-Dichloroisobutyranilide.

4. 3,4-Dichloro-a-methylvaleranilide.

5. A herbicidal composition comprising at least one member of the class consisting of 3,4-dichloropropionanilide, 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide dispersed in a carrier therefor.

6. A herbicidal composition comprising 3,4-dichloropropionanilide dispersed in a carrier therefor together with a surface-active-agent.

7. A herbicidal composition comprising at least one member of the class consisting of 3,4-dichloropropionanilide, 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide dissolved in an inert organic solvent and with a solvent-soluble wetting and emulsifying agent.

8. A method of controlling undesired plant growth which comprises applying to undesired plants in a tender state at least one compound from the class consisting of 3,4-dichloropropionanilide, 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide.

9. A method of controlling undesired plant growth which comprises applying to undesired plants in a tender state 3,4-dichloropropionanilide.

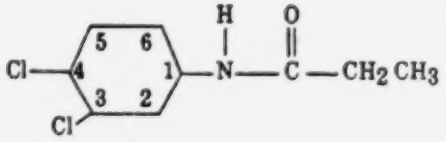
10. A method of controlling growth of plants which comprises applying to plants at least one compound from the class consisting of 3,4-dichloropropionanilide, 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide at a rate from 0.5 to 50 pounds per acre.

11. A method of controlling growth of plants which comprises applying to plants 3,4-dichloropropionanilide at a rate from 0.5 to 50 pounds per acre.

Plaintiff's Exhibit 4.

panil.[6] These three compounds were asserted to possess marked herbicidal activity and of the three compounds disclosed, propanil was described as being "outstandingly active". The 1958 application referred also to known herbicides and noted that some of these herbicides were highly toxic to all types of plants and thus lacked the desired selectivity and differential characteristics. The disclosed compounds were said to possess these desired properties and to provide significant advance. Testimony of Dougal H. McRae; Plaintiff's Exhibit 4.

47. Propanil is a chemical compound which has the structural formula



This compound can be named also as N(3,4-dichlorophenyl) propananide or N(3,4-dichlorophenyl) propionanide. Testimony of Dougal McRae; Plaintiff's Exhibits 2, 3.

Propanil is a member of a class of compounds known as "anilides". Propanil is also a "dichloro" compound since the propanil molecule includes two chlorine atoms; hence it is a "dichloroanilide". The numbers 3 and 4 refer to the particular corners of the benzene ring, *i.e.*, hexagonal ring of carbon atoms, to which the chlorine atoms are attached. The corners of the benzene ring are numbered according to an accepted chemical numbering system.

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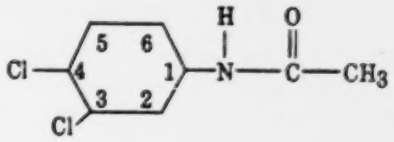
[6] During the trial of the instant cause, propanil has been referred to by the parties also as 3,4-DCPA, the short form for the chemical name of propanil; FW-734, the designation assigned to the chemical propanil by plaintiff (FW are the initials of the person under whose direction propanil was made; 734 is the number assigned to propanil, compounds are assigned numbers consecutively as they are made), and Stam, the commercial name assigned to the chemical propanil by plaintiff. Testimony of Dougal McRae.

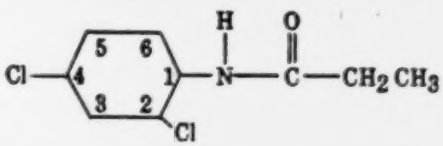
Testimony of Dougal McRae; Plaintiff's Exhibit 13. Anilides may be formed through a reaction of anilines with organic acid. Propanil, for example, is made by the chemical reaction of 3,4-dichloroaniline with propionic acid. Testimony of Dougal McRae.

48. Within the anilide family, those anilides which have a structural formula similar to propanil are known as homologs, isomers, and analogs of propanil. Homologs differ in structure solely by the number of methyl or CH_2 groups in the compounds. Hence, a homolog of propanil, for example, 3,4-dichloroacetanilide, has the following structural formula:



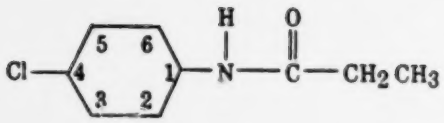
Testimony of Dougal McRae; Plaintiff's Exhibit 13.

49. Isomers contain the same number and types of atoms in the structural formula, but the atoms are located in a different position. An example of an isomer of propanil is 2,4-dichloropropionanilide

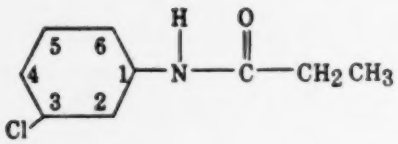


Testimony of Dougal McRae.

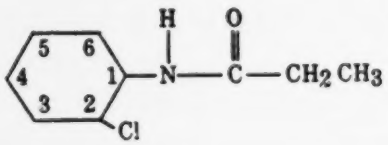
50. Analogs differ by a single atom or a group of atoms having the same valence, *i.e.*, chemical bonding capacity, as the atom or groups of atoms it replaces. Testimony of Dougal McRae; Plaintiff's Exhibit 13. Thus, examples of analogs of propanil are: 4-chloropropionanilide, which has the structural formula



3-chloropropionanilde, which has the structural formula



and 2-chloropropionanilide, which has the structural formula



Testimony of Dougal McRae; Plaintiff's Exhibit 13.

51. A chemical structure, is simply a shorthand method used by chemists to depict a compound, much as a deed describes the metes and bounds of a particular parcel of land. Chemical structures do not describe the entirety of a compound, namely its properties and character. Seemingly small differences in chemical structure, including the concepts of homology, isomerism and analogy, can produce substantial differences in herbicidal properties; such differences can be significant and unpredictable. Testimony of Dougal McRae; Testimony of Ruppert Palmer. Consequently, such differences have resulted in the commercial success for the methods of using propanil as defined in the patent in suit, as opposed to the agricultural chemical industry's indifference for methods of using compounds related structurally to propanil, *e.g.*, 3,4-dichloroacetanilide; 3,4-dichloroalphamethylvarylanilide; 4 chloropropionanilide and 3 chloropropionanilide.

Testimony of Dougal McRae; Testimony of Ruppert Palmer.

52. A herbicide is a chemical used for killing or adversely affecting the growth and development of plants. Testimony of Dougal McRae. Herbicides are commonly classified into the following four classes:

> (1) general pre-emergence herbicides inhibit the growth of substantially all plants when applied to the soil before the plants emerge from the ground.
>
> (2) general post-emergence herbicides destroy substantially all plants when applied thereto after the plants have emerged from the ground.
>
> (3) selective, pre-emergence herbicides, when applied to the soil before the plants emerge, inhibit the growth of weeds without adversely affecting the crop.
>
> (4) selective, post-emergence herbicides, when applied after emergence to a crop and weeds normally associated therewith, substantially destroy the weeds without adversely affecting the crop.

Testimony of Dougal McRae; Testimony of Ruppert Palmer.

53. A weed is a plant undesired in the location where it is growing while a crop is a plant desired in the particular location where it is growing. Testimony of Dougal H. McRae; Testimony of Gordon Brandes; Plaintiff's 2.

54. Identification of a herbicidal material as selective, general or non-selective may depend upon the conditions under which it is applied. Testimony of Dougal McRae. Factors which may influence the type of activity of the particular herbicide include the rate or time of its application, the growth stage of the plants to which the herbicide is applied, the manner by which the herbicide is applied, *i.e.*, whether it is applied as a blanket spray (over the top of all plants in a given area) or as a di-

rected spray (spray controlled and directed to contact only some plants but not others), and even the type of formulation of the herbicide. Testimony of Dougal McRae, Defendants' Exhibits 225-227.

Nevertheless, compounds which possess one type of herbicidal activity may not necessarily possess any of the other types of herbicidal activity. For example, general herbicides may never become selective. In addition, premergence herbicides may never demonstrate post-emergence activity. Testimony of Dougal McRae; Testimony of Ruppert Palmer. Selectivity can depend also on the type of plant to which the herbicide is applied. Testimony of Dougal McRae. For example, a phenoxy herbicide commonly known as 2,4 D will control the growth of dicotyledonous plants without affecting adversely monocotyledonous plants such as cereal grains. Testimony of Dougal McRae; Testimony of Ruppert Palmer.

55. The most desirable herbicides are those which will selectively kill undesirable plants or weeds under conditions of applications which will cause little or no adverse effect on desirable plants or crops. Testimony of Dougal McRae.

56. Plaintiff's 1958 application was directed to chemical compounds with post-emergence herbicidal activity, and, in particular, to selective herbicidal effects which could be obtained through various rates of application, times of application or methods of application. Control of weeds among established crops was one of the specifically stated objectives. Testimony of Dougal H. McRae; Plaintiff's Exhibit 4.

57. Several structurally related prior art compounds were acknowledged in the 1958 application. It was stated in the application that many of these compounds when tested showed slight or no useful herbicidal activity. The 1958 application observed further "that herbicidally active agents in this field of chemistry cannot be predicted from the prior knowledge of compounds which have been

demonstrated to exhibit herbicidal activities." Testimony of Dougal McRae; Plaintiff's Exhibit 4.

58. The 1958 application disclosed how the compounds described therein were made, how herbicidal compositions from these compounds were formulated, and the methods of application of the formulated compositions to plants. The post-emergence herbicidal activity of the compounds, as well as structurally related prior art compounds, was illustrated by tests carried out in the greenhouse and by data obtained from the field. Field test data contained in the 1958 application demonstrated the selective, post-emergence herbicidal properties of propanil including the control of annual grasses and weeds growing among perennial grasses, the control of weeds growing in alfalfa and clover, and the destruction of a variety of both monocotyledonous and dicotylendous weeds growing in such crops as strawberry, potato and tomato without injury to the crops. Monocotyledenous plants (hereinafter monocots) comprise a class of plants typified by grasses or narrow leaf plants; dicotyledenous plants (hereinafter dicots) form a separate and distinct class of plants commonly known as broadleaf plants. Additionally, the 1958 application stated that the compounds claimed could be used effectively for the control of annual weeds in such additional crops as corn, sugar cane and pineapples. Testimony of Dougal H. McRae; Plaintiff's Exhibit 4.

59. In the first office action issued by the Patent Office on October 14, 1958, the patent examiner rejected all of the claims contained in the 1958 application as such claims failed to properly define the invention. The patent examiner rejected the claims contained in this application also on the basis that the claims were obvious by prior art.[7] Moreover, the patent examiner, on the basis that

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[7] More specifically, the examiner rejected all of the claims contained in the 1958 application as:

> The claims are indefinite and too broad in "3,4-dichloropropionanilide" (it is not clear which positions are chlorinated),

the 1958 application contained two independent and distinct inventions, *i.e.*, one invention being the compounds *per se* and the other being herbicidal compositions containing and methods of using the compounds, required that the 1958 application be restricted to one of the aforementioned inventions pursuant to 35 U.S.C. § 121 (Supp. 1982).[8] Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance.

"carrier therefor", "surface active agent", "inert organic solvent", "solvent-soluble wetting and emulsifying agent" giving rise to compounds with different properties and that can react in a different manner. There is not sufficient basis nor enough specific examples in the specification for such broad statements. The "composition comprising" terms are incomplete. The composition claims are unduly multiplied, claims such as 5 to 7 not being patentably distinct from product claims 1 to 4. (*See In re Migridichian* 513 O.G. 757 and *Ex parte Billman* 71 USPQ 253).

Claims 1 to 7 are rejected as unpatentable over Williams or Surrey that disclose p-chloro propionanilide and m-chloro propionanilide. No invention is seen in adding another chlorine atom to the molecule of the reference compound. See *Ex parte Teter* 105 USPQ 192.

Claims 1 to 9 are rejected as unpatentable over Ng.Ph. Buu-Hoi that discloses 3,4-dichloroacetanilide which is a lower homologue of the claimed compounds and the latter in the absence of a showing of unexpected results are unpatentable under the rulings of *In re Haas et al* 60 USPQ 548; *In re Henz* 85 USPQ 261.

Claims 8 to 11 are rejected since no invention is seen in a method of applying 3,4-dichloropropionanilide or a higher homologue to undesired plants since any layman knows how to spray weeds with a weed-killer. Sexton teaches the very similar process.

Plaintiff's Exhibit 4.

[8] 35 U.S.C. § 121 (Supp. 1982) states in pertinent part: "If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions."

60. In an amendment to the 1958 application filed on January 30, 1959, Rohm and Haas contested the rejections made by the patent examiner and presented arguments in support of its position. Additionally, Rohm and Haas, although contesting the restriction requirement imposed by the patent examiner, elected to pursue prosecution of the claims to the compounds *per se*. Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance.

Filed along with the amendment was an affidavit executed by McRae. The affidavit contained the results of a series of tests on a number of analogous chlorinated anilides. The test data was submitted for the purpose of demonstrating "the unexpected and completely unobvious herbicidal properties of the products of the present invention and the inability to predict these properties on the basis of the prior art." Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance. The test data as submitted indicated that propanil was highly phytotoxic to a variety of weeds when compared to 3,4-dichloroacetanilide, 3,4,5-trichloropropionanilide, 3-chloropropionanilide, and 2-chloropropionanilide. Testimony of Dougal McRae; Plaintiff's Exhibit 4; Defendants' Exhibit 58.

61. Notwithstanding the additional data contained in the affidavit submitted by McRae and Rohm and Haas' arguments in response to the patent examiner's rejections of Rohm and Haas' claims, in an office action dated February 13, 1958 the patent examiner adhered to his prior decision rejecting the claims contained in the 1958 application and to his decision that independent and distinct inventions were being claimed in the 1958 application. Additionally, Rohm and Haas' method claims were withdrawn by the examiner from further consideration pursuant to plaintiff's election not to pursue prosecution of such claims. Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance.

62. In response to the office action of July 14, 1959, Rohm and Haas filed an amendment on August 25, 1959

wherein it was argued once again that claims 1 to 5 were definite and patentable. Along with this amendment plaintiff submitted another affidavit executed by McRae for the purpose of demonstrating that propanil "has 'unobvious (or) and unexpected properties not possessed by the prior art isomers' or homologs or isomeric homologs." Plaintiff's Exhibit 4. The affidavit contained test data comparing the phytotoxicity between propanil and 2,5-dichlorobutyranilide; such data revealed that propanil was phytotoxic to a number of weeds whereas 2,5 dichlorobytyranilide had no effect whatsover on those weeds to which it was applied. Plaintiff's Exhibit 4; Defendants' Exhibit 59.

63. On September 2, 1959, the patent examiner reaffirmed his prior decision with respect to the claims contained in the 1958 application and suggested also a claim in the 1958 application for purposes of interference:

> A compound selected from the group consisting of N-(3,4-dichlorophenyl)—2-methylpentanamide and N-(3,4-dichlorophenyl)—2-methylpropanamide.

Plaintiff's Exhibit 4. The claim suggested for interference was drawn to two compounds *per se*, neither of which was propanil. Plaintiff's Exhibit 4; *See also* Testimony of Walter Modance.

64. Shortly thereafter, plaintiff filed an amendment raising again arguments with respect to the patentability of plaintiff's claims and, in addition, presenting a twelfth claim for purposes of interference as required by the patent examiner. Plaintiff's Exhibit 4; *See also* Testimony of Walter Modance.

65. As a result of plaintiff's September 2 amendment, Interference No. 90,697 was declared on November 24, 1959, and plaintiff's patent application was forwarded to the Examiner of Interferences. The purpose of the interference proceeding was to determine as between the application filed by Rohm and Haas and an application filed

by Robert L. Gates, who was the first inventor of the two compounds, neither of which was propanil, defined in the aforestated claim. Plaintiff's Exhibit 4; Defendants' Exhibit 153. *See also* Testimony of Walter Modance.

66. On May 24, 1960, Rohm and Haas filed an amendment cancelling all references to propanil in claims 1, 5, 7, 8 and 10, as propanil was being claimed in a continuation-in-part application (hereinafter 1960 application) The amendment cancelled further claims 2, 6, 9 and 11 in their entirety. Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance.

67. A continuation-in-part or "CIP" application is an application that is filed during the pendency of an application filed earlier by the same inventor, *i.e.*, the parent application, disclosing some subject matter common to the parent application, as well as some subject matter not common to and not supported by the parent application. The continuation-in-part application may or may not claim the new subject matter. Although a continuation-in-part application discloses subject matter not found in the parent application, one or more of its claims may be directed solely to subject matter disclosed in the parent application. In such cases, the effective filing date for the continuation-in-part claims which are supported in the parent application is the filing date of the parent application. Testimony of Walter Modance.

68. In May 1962, the interference declared in October, 1960 was terminated by the patent examiner on the ground that the two compounds in question were unpatentable in view of German Auslegeschrift 1,005,784 which had been filed on April 4, 1957. Plaintiff's Exhibit 4; Defendants' Exhibit 153. The examiner declared also that the amendment of May 24, 1960 had been entered, and pursuant to such amendment, claims 2, 6, 9 and 11 were cancelled. The patent examiner held also that claims 7 and 8 stood withdrawn from consideration as a result of plaintiff's election. Finally, the patent examiner re-

jected claims 1, 3, 4 and 12 as unpatentable over the German Auslegeschrift or application that had been involved in the interference proceeding declared in 1960, as the Auslegescrift disclosed the

> 3,4-dichloroanilide of isobutyric acid (also termed N-(3,4-dichlorophenyl)—2-methyl propanamide) which obviously fully meets claims 1, 3 and 12. The German Auslegreschrift contemplates the 3,4-dichloroanilides of 2-alkyl-alkanoic acids as a *class* as is readily apparent from a consideration of the generic formula and the named ethylhexanoic and isobutyric acids. The 3,4-dichloroanilide of-methylavaleric acid (also termed 3,4-dichloro-a-methylvaleranilide; or N-(3,4-dichlorophenyl)-2-methyl pentamide) is found to be so readily suggested in view of the prior act as to be rendered obvious as a compound to one of ordinary skill in this art, 35 U.S.C. 103.

Plaintiff's Exhibit 4. The patent examiner rejected further claim 5 of plaintiff's application by reason of the disclosure in the German Auslegeschrift. Additionally, the patent examiner found that "the compound 3,4-dichloro-a-methylvaleranilide and its application in aqueous media is considered to be so readily suggested in view of the prior art as to the rendered obvious to one of ordinary skill, 35 U.S.C. 103." Plaintiff's Exhibit 4. The German Auslegeschrift referred to above does not disclose propanil. Plaintiff's Exhibit 4.

69. On July 9, 1962, Rohm and Haas expressly abandoned its 1958 application as the continuation-in-part application filed on May 24, 1960 contained the subject matter on which plaintiff desired to secure letters patent. Plaintiff's Exhibit 4. *See also* Testimony of Walter Modance.

2. *Rohm and Haas' 1960 Application*

70. The continuation-in-part application referred to in the May, 1960 amendment to the 1958 application was

filed in the Patent Office on May 24, 1960, and was assigned Serial Number 31,253. The disclosures in the 1960 application were essentially the same as those in the 1958 application except that the 1960 application specifically referred to the use of propanil as a selective, post-emergence herbicide to control weeds growing in rice. Herbicidal data were presented to demonstrate that rice was essentially uninjured when treated with weed killing rates of propanil, whereas the two compounds previously disclosed and claimed, 3,4-dichloroisobutyranilide and 3,4-dichloro-a-methylvaleranilide, injured rice when such compounds were applied at weed killing rates. Consequently, Rohm and Haas asserted that these compounds could not be used to control undesired plants growing in rice. Testimony of Dougal H. McRae; Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance; Defendants' Exhibit 18. The original claims presented in the 1960 application were drawn to herbicidal compositions containing propanil and to methods for controlling weeds in an area containing economically valuable plants by applying propanil. Narrower claims defined the economically valuable plants as cereal grain crops and as rice crops.[9] Plaintiff's Exhibit 3.

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[9] The claims were as follows:

1. 3,4-Dichloropropionanilide.

2. An herbicidal composition comprising (1) 3,4-dichloropropionanilide dispersed in (2) a carrier therefor and (3) a surface active agent.

3. A method of controlling undesired plant growth which comprises applying to undesired plants in a tender state 3,4-dichloropropionanilide.

4. A method of controlling growth of plants which comprises applying to plants 3,4-dichloropropionanilide at a rate from 0.5 to 50 pounds per acre.

5. An herbicidal composition comprising (1) 3,4-dichloropropionanilide dissolved in (2) a non-phytotoxic organic solvent and (3) a solvent-soluble wetting and emulsifying agent.

[Continued]

In an oath filed along with the 1960 application, McRae and Wilson averred that they were the inventors of the invention or discovery in

> Herbicidal 3,4-dichloroanilides described and claimed therein; that this application discloses and claims only subject matter disclosed in our pending application, Serial No. 714,947 filed 2/13/58; that we do not know and do not believe that . . . [an] application for patent on said invention or discovery has been filed by us or our representatives or assigns in any country foreign to the United States . . . .

Plaintiff's Exhibit 3. *See also* Testimony of Dougal McRae; Plaintiff's Exhibit 141 (Deposition Testimony of Harold Wilson). Although when McRae executed the oath he knew that the 1960 application contained new subject matter, *i.e.*, those claims drawn specifically to rice, not disclosed in the 1958 application, and that Rohm and Haas had filed a number of corresponding patent applications in foreign countries, *see* Defendants' Exhibits 19, 320, he nevertheless signed the oath with the good faith belief that the oath was accurate. Testimony of Dougal McRae. Wilson signed the oath also with the

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[9] [Continued]

> 6. A method for control of weeds in economically valuable plants which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.
>
> 7. A method for control of weeds in cereal grain crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.
>
> 8. A method for the control of weeds in rice crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.
>
> 9. A method for the control of weeds in rice crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide at an application rate of 0.5 to 8 pounds per acre.
>
> Plaintiff's Exhibit 3.

good faith belief that the oath was accurate. Plaintiff's Exhibit 141 (Deposition Testimony of Harold Wilson).

71. In the first office action involving the 1960 application, the patent examiner again required restriction between what were deemed to be two independent and distinct inventions, one to propanil *per se* and the other to "compositions and methods [sic] of plant control using [propanil]. . . ." Plaintiff's Exhibit 3. In declaring that Rohm and Haas had made two independent and distinct inventions, the patent examiner cited several references to show classification:

Surrey	2,732,403	Jan. 24, 1956	260/562
Jacob et al	2,727,071	Dec. 13, 1955	260/562
Hill et al	2,876,088	Mar. 3, 1959	71/2.6
Cupery	2,705,195	Mar. 29, 1955	71/2.6

Plaintiff's Exhibit 3. *See also* Defendants' Exhibit 317.

72. Rohm and Haas once again contested this decision and requested that the patent examiner reconsider his decision. In order to be completely responsive to the first office action, Rohm and Haas elected in the alternative to pursue prosecution of the claim to propanil *per se*. When the patent examiner adhered to his prior decision that separate and distinct inventions were being claimed, Rohm and Haas filed a petition with the Commissioner of Patents seeking review of the requirement for restrictions. Plaintiff's Exhibit 3.

73. On February 24, 1961, Rohm and Haas' petition for review was denied. The Supervisory Classification Examiner held that the requirement for restriction was proper as claims to propanil *per se* and claims to methods of using and compositions containing propanil are "directed to different inventions which are separately classified, examined in different divisions of the Patent Office and have different fields of search." Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance. As a result

of the denial of Rohm and Haas' petition seeking review of the patent examiner's decision, Rohm and Haas was required to prosecute only its claim to propanil *per se* in the 1960 application. Plaintiff's Exhibit 3.

74. During his consideration of the 1960 application, the patent examiner rejected repeatedly the claim to propanil *per se* as unpatentable as a result of a prior publication referred to by the patent examiner as the Beilstein reference. Such publication, the examiner found, disclosed compounds which suggested and rendered obvious the compound propanil. The patent examiner found that although propanil was not disclosed in the Beilstein reference, the next lower adjacent homolog and position disclosed 2,4-dichloroacetanilide, 2,4-dichloropropionanilide, 2,4,6-trichloroacetanilide, 2,4,5-trichloropropionanilide, and 3,4-dichloroacetanilide. In further support of his finding that propanil *per se* was unpatentable due to prior art, the patent examiner pointed out that as the Beilstein reference disclosed "the preparation of at least two alkanoyl anilides having identical chloro substitutes wherein the alkanoyl moiety is either acetyl or propionyl, it would be an obvious and suggested step to prepare the propionyl derivative corresponding to the disclosed 3,4-dichloroacetanilide." Plaintiff's Exhibit 3.

The patent examiner rejected also Rohm and Haas' patent claim to propanil *per se* on the basis of prior art found in the count of Interference No. 90,697 to which Rohm and Haas was a party. Plaintiff's Exhibit 3.

75. Rohm and Haas took issue with the patent examiner's findings regarding the prior art disclosure and argued that although the Beilstein reference disclosed numerous homologs and isomers of their claimed compound, the patent examiner failed to recognize the unexpected and unobvious discovery of the utility of propanil as a herbicide which, together with the compound itself, formed the basis of Rohm and Haas' invention. Such subject matter, Rohm and Haas contended, was not disclosed or

suggested by the Beilstein reference. In support of its argument, Rohm and Haas submitted on different occasions three affidavits executed by McRae to illustrate that the high degree of post-emergence herbicidal activity of [propanil] was completely unexpected on the basis of the poor or negligible activity of 2,5-dichloropropionanilide, 2,5-dichloroacetanilide, 2,4,6-trichloropropionanilide, 2,4,6-trichloroacetanilide, 3,4-dichloroacetanilide, 3,4-dichloroisobutyranilide, and 3,4-dichloro-a-methylvaleranilide. Plaintiff's Exhibit 3; Defendants' Exhibits 60-62. *See also* Testimony of Dougal McRae. Plaintiff's Exhibit 3. Because Rohm and Haas' claim was drawn to a chemical compound *per se* rather than to a method of using such compound, the patent examiner was unpersuaded by Rohm and Haas' attempts to demonstrate the unobvious and unexpected beneficial properties of propanil. Plaintiff's Exhibit 3.

As to the patent examiner's finding of unpatentability on the basis of prior art in the count of Interference No. 90,697, plaintiff asserted that its claim drawn to propanil *per se* was no longer present in the 1958 application in which 3,4-dichloroisobutyranilide and 3,4-dichloro-a-methylvaleranilide were disclosed and claimed. Rohm and Haas pointed out also the unexpected, unobvious and advantageous differences between the herbicidal action of propanil, particularly in cereal grains such as rice, and the herbicidal activities of 3,4-dichloroisobutyranilide and 3,4-dichloro-a-methylvaleranilide. Plaintiff's Exhibit 3.

76. On May 2, 1961, all claims to methods of using and compositions containing propanil were cancelled from the 1960 application, as such claims formed the subject matter of a divisional application filed in the Patent Office on March 16, 1961 (hereinafter 1961 application). Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance.

77. A division or divisional application is an application that is filed during the pendency of an application

filed earlier by the same inventor, *i.e.*, the "parent application", and discloses and claims only the subject matter disclosed in the parent application. A divisional application claims a distinct, separate and independent invention carved out of its parent application and the invention claimed therein. A claim in a divisional application is entitled to the effective filing date of the parent application which supports such claim. Testimony of Walter Modance.

78. After the patent examiner's rejection of Rohm and Haas' claim to propanil *per se* was made final in July 1961, Plaintiff's Exhibit 3; Defendants' Exhibit 326, *see also* Testimony of Walter Modance, Rohm and Haas appealed the patent examiner's decision to the Board of Appeals of the Patent Office. Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance. On June 18, 1962, the decision of the patent examiner was affirmed by the Board of Appeals for the Patent Office. Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance.

79. After this decision, the 1960 application, with its single claim to propanil *per se* was abandoned. Plaintiff's Exhibit 3. *See also* Testimony of Walter Modance. Rohm and Haas continued then with its prosecution of its 1961 application drawn to herbicidal methods and compositions which the patent examiner had held previously were separate and distinct inventions from the claim drawn to propanil *per se*. *See* Plaintiff's Exhibits 3, 4.

3. *Rohm and Haas' 1961 Application*

80. On March 16, 1961, Rohm and Haas filed its third patent application relevant to the instant suit as a division of the 1960 application. This application was assigned Serial Number 96,089. The disclosure of the 1961 application was essentially identical to the 1960 disclosure. Original claims presented in 1961 were directed to herbicidal compositions containing propanil and to methods of controlling the growth of plants by applying propanil.

Selective control of weeds in economically valuable plants was claimed and narrower claims defined such plants as cereal grain crops and rice crops. Claims to methods of using propanil as presented in the 1961 application were drawn to a distinctly different and separately patentable invention as compared to claims drawn to propanil *per se* as a chemical compound.[10] Plaintiff's Exhibits 2, 3, 4. *See also* Testimony of Walter Modance.

As they had done in the 1960 application, McRae and Wilson executed an oath containing an averment that neither they nor their representatives or assigns had filed

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[10] Specifically, Rohm and Haas' 1961 application contained the following claims:

1. An herbicidal composition comprising (1) 3,4-dichloropropionanilide dispersed in (2) a carrier therefor and (3) a surface agent.

2. A method of controlling undesired plant growth which comprises applying to undesired plants in a tender state 3,4-dichloropropionanilide.

3. A method of controlling growth of plants which comprises applying to plants 3,4-dichloropropionanilide at a rate from 0.5 to 50 pounds per acre.

4. An herbicidal composition comprising (1) 3,4-dichloropropionanilide dissolved in (2) a non-phytotoxic organic solvent and (3) a solvent-soluble wetting and emulsifying agent.

5. A method for control of weeds in economically valuable plants which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.

6. A method for control of weeds in cereal grain crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.

7. A method for the control of weeds in rice crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.

8. A method for the control of weeds in rice crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide at an application rate of 0.5 to 8 pounds per acre.

Plaintiff's Exhibit 2.

foreign patent applications on the subject matter being claimed in the 1961 application. McRae and Wilson averred also in the oath that they were the inventors of the subject matter being claimed including those method claims drawn specifically to rice. Testimony of Dougal McRae, Testimony of Harold Wilson; Plaintiff's Exhibit 2. Although there is evidence to indicate that McRae knew of the existence of a number of corresponding foreign patent applications at the time he executed this oath, *see* Testimony of Dougal McRae, the Court is of the belief that both McRae and Wilson executed the oath with the good faith belief that the statements contained in the oath were accurate.

81. Shortly after filing the 1961 application Rohm and Haas filed a communication describing the prosecution of the 1960 application and citing the various prior art references which the patent examiner had utilized in rejecting Rohm and Haas' claim to propanil *per se*. Rohm and Haas filed also an affidavit executed by McRae to illustrate the unique herbicidal activity of propanil when compared to 9 closely related compounds. Plaintiff's Exhibit 2; Defendant's Exhibit 62. *See also* Testimony of Dougal McRae.

82. In an office action dated September 14, 1961, the patent examiner rejected each of the claims presented in the 1961 application as being indefinite and/or unpatentable over the following: (1) Rohm and Haas' 1958 application which was still pending at that time; (2) the count and the disclosure of the opposing party to Interference No. 90,697 to which Rohm and Haas was a party; (3) a German application referred to as Fischer which the examiner found disclosed that 3,4-dichloroanilides were effective herbicides; and (4) a publication designated as the "CBCC publication" which disclosed that halogenated propionanilides were phytotoxic. Additionally, the examiner rejected claims 1 to 4 as being unpatentable over a publication cited as prior art during the prosecution of the 1960 application, *i.e.*, the Beilstein

reference. The examiner found that the Beilstein reference disclosed three compounds, *i.e.*, 2,4-dichloropropionanilide, 2,4,5-trichloropropionanilide, and 3,4-dichloroacetanilide, that suggested and rendered obvious propanil. Plaintiff's Exhibit 4.

83. In February, 1962, Rohm and Haas filed an amendment cancelling all of the claims contained in its 1961 application. Rohm and Haas added seventeen new claims,[11]

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[11] The claims added by amendment included the following:

9. A method for selectively inhibiting growth of undesirable plants in an area containing growing undesirable plants in an agronomic crop, which comprises applying to said area 3,4-dichloropropionanilide at a rate of application which does not adversely affect the growth of said agronomic crop.

10. A method of inhibiting the growth of undesirable plants in agronomic crops which comprises applying to said plants 3,4-dichloropropionanilide in an amount sufficient to inhibit the growth of said undesirable plants but insufficient to inhibit the growth of the agronomic crops.

11. A method of inhibiting the growth of undesirable plants in growing perennial grasses, perennial legumes, cereal grains, flax, potatoes, tomatoes, sugar cane, and strawberries which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

12. A method according to Claim 11 in which the 3,4-dichloropropionanilide is applied to the undesirable plants in a tender state.

13. A method of inhibiting the growth of undesirable plants in cereal grain crops which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

14. A method of inhibiting the growth of undesirable plants in clover in the dormant state which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

15. A method of inhibiting the growth of undesirable plants in alfalfa in the dormant state which comprises applying to the

however, in an attempt to overcome the patent examiner's rejection of claims 1 to 8 which Rohm and Haas had just

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undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

16. A method of inhibiting the growth of undesirable plants in rice crops which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

17. A method of inhibiting the growth of undesirable plants in flax crops which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

18. A method of inhibiting the growth of undesirable plants in wheat which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

19. A method of inhibiting the growth of undesirable plants in tomatoes which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

20. A method of inhibiting the growth of undesirable plants in potatoes which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

21. A method of inhibiting the growth of undesirable plants in sugar cane which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

22. A method of inhibiting the growth of undesirable plants in strawberries which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

23. A method of inhibiting the growth of undesirable plants in rice crops which comprises applying to the undesirable plants in a tender stage 3,4-dichloropropionanilide at an application rate of 0.5 to 10 pounds per acre.

24. A method of inhibiting the growth of undesirable plants in perennial grasses which comprises applying to the undesirable plants a growth-inhibiting amount of 3,4-dichloropropionanilide.

25. A method for inhibiting the growth of undesirable plants in growing perennial grasses, perennial legumes, cereal grains, flax, potatoes, tomatoes, sugar cane, and strawberries which comprises applying to the undesirable plants 3,4-dichloropropionanilide in an amount which inhibits the growth of said undesirable plants and which does not adversely affect the growth of the recited crops at a rate of application between 0.5 to 10 pounds per acre.

cancelled. Rohm and Haas contended that ample support in the disclosure for the seventeen new claims existed in the 1961 application. Plaintiff's Exhibit 2. Rohm and Haas filed also 4 extensive affidavits, one of which was executed by McRae, for the purpose of demonstrating the activity of propanil and related anilides as post-emergence herbicides. Plaintiff's Exhibit 2. Defendants' Exhibit 63. *See also* Testimony of Dougal McRae.

4. *The Interference Proceeding*

84. On August 21, 1963, the Patent Office found claim 9 of the 1961 application allowable for interference purposes. Interference No. 93,751 involved claim 9 of the 1961 application and two other patent applications, an application filed by Clarence W. Huffman (hereinafter Monsanto application), and an application filed by Werner Schafer (hereinafter Bayer application). Plaintiff's Exhibits 2, 12A. *See also* Testimony of Rudolf Hutz; Testimony of Walter Modance. The interference was declared by primary examiner J. O. Thomas for the purpose of establishing the first inventor of the subject matter of the interference:

> A method for selectively inhibiting growth of undesirable plants in an area containing growing undesirable plants in an agronomic crop, which comprises applying to said area 3,4-dichloropropionanilide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said agronomic crop.

Plaintiff's Exhibit 12A.

85. The parties to this interference were Rohm and Haas, Monsanto Company (hereinafter Monsanto), via an application filed in the name of Clarence W. Huffman, and Farbenfabriken Bayer AG (hereinafter Bayer), via an application filed in the name of Drs. Schafer, Wegler and Eue. Plaintiff's Exhibits 2, 12A. *See also* Testimony of Walter Modance.

86. The interference was vigorously contested by all parties. Each party brought a substantial number of preliminary motions which were decided on June 21, 1965. One of the motions decided was Monsanto's motion seeking to broaden the count of the interference to embrace pre-emergence herbicidal methods as well as general herbicidal methods. The primary examiner denied this motion noting that: "the subject matter found allowable in the applications involved in the interference is limited to selectively destroying weeds in agronomic crops without adversely affecting the same by post-emergent application of [propanil]. . . ." Plaintiff's Exhibit 12A. The patent interference examiner decided also that Bayer was not entitled to the benefit of the date of an application that Bayer had filed in Germany on April 20, 1957. Plaintiff's Exhibit 12A. *See also* Testimony of Walter Modance.

87. Following the primary examiner's decision on the preliminary motions filed by the parties, both Rohm and Haas and Monsanto took extensive testimony, introduced numerous exhibits, and filed detailed briefs in an effort to establish the priority of their respective inventions. Plaintiff's Exhibits 12E-I. *See also* Testimony of Walter Modance.

88. On December 18, 1967, the Board of Patent Interferences of the United States Patent Office rendered its decision awarding Monsanto priority of invention over Rohm and Haas and Bayer. The Board of Patent Interferences found that Monsanto's inventor had conceived the process contained in the interference count on March 27, 1957 and had constructively reduced the invention to practice by filing its application on May 27, 1957. The Board of Patent Interferences found that Rohm and Haas had conceived the invention contained in the interference count on April 4, 1957. The Board based its decision awarding Rohm and Haas a conception date of April 4, 1957 on a memorandum that Wilson had prepared on April 4, 1957, and forwarded to the Assistant Director of

Research at Rohm and Haas. As to Bayer, the Board affirmed the primary examiner's decision that Bayer was "not entitled to the benefit of their German application filed April 20, 1957." The Board stated further that "there is no reference whatsoever therein to the compound [propanil]. The generic structural formula contained therein does not teach the invention of the count." Plaintiff's Exhibit 12A. *See also* Testimony of Walter Modance.

89. Subsequently, Rohm and Haas appealed this decision to the United States Court of Customs and Patent Appeals. Plaintiff's Exhibit 12A. *See also* Testimony of Walter Modance. During the pendency of the appeal, Rohm and Haas obtained certain documents and information in the course of discovery in a lawsuit that had been filed by Monsanto against Rohm and Haas. Based on this newly discovered evidence, Rohm and Haas filed a motion with the Court of Customs and Patent Appeals requesting that the proceeding be remanded to the jurisdiction of the Board of Patent Interferences in order to enable Rohm and Haas to introduce this evidence and seek a redetermination of priority. Plaintiff's Exhibits 12A, J-M, Q-R. *See also* Testimony of Walter Modance.

90. On May 12, 1969, the Court of Customs and Patent Appeals entered an order granting Rohm and Haas' motion and remanding the interference proceeding to the Board of Patent Interferences in order to afford Rohm and Haas an opportunity to obtain consideration of the newly discovered evidence. Plaintiff's Exhibit 12A. *See also* Testimony of Walter Modance.

91. Upon remand of the cause to the Board of Patent Interferences, Rohm and Haas filed a motion to reopen the interference proceeding for the purpose of introducing newly discovered evidence. Plaintiff's Exhibit 12B. *See also* Testimony of Walter Modance. Rohm and Haas asserted that this evidence had a direct and material bearing on key decisions of the Board of Patent Interferences:

a) The Board held that certain observations made on March 27, 1957 by Hamm, an associate of Huffman, constituted a conception by Huffman of the invention of the count. (Decision pp. 9-10). The new evidence demonstrates that those observations of Hamm were not communicated to Huffman until after the filing of his original application. So long as those observations remained uncommunicated to Huffman, they could not possibly have been the basis of a conception by Huffman.

b) The Board held that some general statements in Huffman's original patent application filed May 27, 1957, adequately taught the subject matter of the count and thus constituted a constructive reduction to practice thereof (Decision pp. 3-5). The new evidence demonstrates that the specific compound named in the count was not then regarded by Huffman and his associates as being useful in the method specified in the count—and indeed they had no inkling of the unique utility of this compound which alone was responsible for allowance of the interference count. This utility first came to the attention of Huffman's associates (Huffman having meanwhile gone to work for a different employer) years later as a result of disclosures from Wilson et al's assignee.

Plaintiff's Exhibit 12B.

92. On September 24, 1969, the Board of Patent Interferences vacated its decision of December 18, 1967 awarding priority of invention to Monsanto, and granted Rohm and Haas' motion to reopen the interference proceeding for the limited purpose of introducing the newly discovered evidence. The Board of Patent Interferences denied, however, Monsanto's motion to reopen the proceeding to permit Monsanto to introduce evidence that it had obtained during the litigation pending at that time between Monsanto and Rohm and Haas. The evidence which Monsanto sought to introduce into the record and bring to the

Board's attention was the results of the early 1957 field test on corn and beans which indicated that propanil was not selective on these crops. In denying such motion, the Board of Patent Interferences held, in part, that the evidence sought to be introduced by Monsanto was not "significant as to the conclusion in our decision that the Wilson et al. April 4, 1957 memorandum . . . constituted evidence of conception for Wilson et al. as of that date". Plaintiff's Exhibit 12B. *See also* Testimony of Walter Modance; Plaintiff's Exhibit B-D.

93. On February 3, 1970, Monsanto filed a motion to strike Rohm and Haas' application pursuant to Rule 56 of the Patent Office Rules of Practice. The basis asserted by Monsanto in support of its motion was that one of the inventors of the invention claimed by Rohm and Haas had committed fraud when Wilson and McRae signed the inventor's oath in the 1960 and 1961 applications. Specifically, Monsanto alleged that McRae had falsely attested that he was the inventor of the claims drawn to rice which were contained in the 1960 and 1961 applications. In support of this contention, Monsanto relied upon the following excerpts from testimony given by McRae during the trial of the cause between Monsanto and Rohm and Haas:

> As shown at page 365-6 of the trial transcript, McRae was specifically asked:
>
> "Q Did you or your co-workers find out that it [3,4-DCPA] had utility on rice?
>
> A No."
>
> Thereafter, as shown at page 368-9 of the trial transcript, McRae was referred to the 1960 Wilson et al application and asked:
>
> "Q I'd like you to look at Plaintiff's Exhibit 3, Dr. McRae, which is the second McRae-Wilson applica-

tion filed May 24, 1960, and I'd like you to turn, if you will, to page 19 of that prosecution history.

A Yes.

Q Do you recognize that to be the page which contains the oath, power of attorney, and petition that was submitted to the Patent Office in connection with that application?

A Yes.

Q And do you find your signature and Dr. Wilson's signature there?

A Yes.

Q Will you turn back to page 18?

Do you find a claim, No. 8, which reads: A method for the control of weeds in rice crops which comprises applying to the weeds in a tender state 3,4-dichloropropionanilide.

A Yes.

Plaintiff's Exhibit 12B. According to Monsanto's motion, this invention had been made by Dr. Takematsu, a Japanese scientist. Plaintiff's Exhibits 12B, 12C. *See also* Testimony of Walter Modance.

In response to Monsanto's motion, Rohm and Haas argued that Dr. Takematsu was a paid agent of the Rohm and Haas inventors. Dr. Takematsu conducted his experiments on rice at Rohm and Haas' request and used propanil supplied by Rohm and Haas. In addition, Rohm and Haas paid Dr. Takematsu for this work. Accordingly, Rohm and Haas asserted that although Dr. Takematsu was the first to test propanil on rice, the work he did was a logical and routine extension of the earlier Rohm and Haas invention and it inured to the benefit of Rohm and Haas. Plaintiff's Exhibit 12C. *See also* Testimony of Walter Modance.

94. On April 2, 1970, the Assistant Commissioner of Patents denied Monsanto's petition to strike on the basis that the evidence submitted by Monsanto in support of its petition did not sustain a charge of fraud. The Assistant Commissioner stated, however, that "when *ex parte* prosecution of the [Rohm and Haas'] application is resumed after this interference is terminated, the patentability of the claims in question should be redetermined in the light of the facts brought out in the petition." Plaintiff's Exhibit 12C. *See also* Testimony of Walter Modance.

95. Monsanto thereafter filed a motion for reconsideration of the Assistant Commissioner's April 2 decision denying Monsanto's petition to strike. Plaintiff's Exhibit 12C. On May 26, 1970, the Assistant Commissioner denied Monsanto's motion and reaffirmed his prior finding that:

> The record in this case, including as an evidentiary fact the answers by McRae in response to questions as to his belief in his "inventorship", fails to show an intent to falsify the application oaths. The record shows that McRae did in fact have knowledge of the rice tests in Japan, authorized by Rohm and Haas, at the time he signed the oaths in question, but that he did not direct or carry out the tests. The record also shows that tests on rice were conducted by Rohm and Haas in this country before the date of the application oaths in question.
>
> *In situations such as in the instant case, results of third party tests inure to the benefit of the inventor.* It is to be noted that tests were conducted by third parties, Nolan and Hamm, for Huffman and the benefit of those tests resulted in establishing the date of conception by Huffman.
>
> On the record in this case, then, it is not seen that McRae's answer to the question, "At the time you

signed that oath did you believe you were the inventor of that process?", establishes a fraudulent intent.

Plaintiff's Exhibit 12C (emphasis added). *See also* Testimony of Walter Modance.

96. Rohm and Haas introduced then its new evidence and Monsanto was afforded an opportunity to introduce evidence in rebuttal thereto. Both parties filed also briefs and presented oral arguments in support of their respective positions. Plaintiff's Exhibits 12D, 12N-P. *See also* Testimony of Walter Modance.

97. On June 30, 1971, the Board of Patent Interferences entered its decision that Monsanto was not entitled to the conception of invention date of March 27, 1957, the date Hamm performed herbicidal tests on propanil. Specifically, the Board of Patent Interferences stated:

> Huffman testified that he believed he received a report from Hamm about these tests "at some time in the year 1957" and that it might have been just a telephone report (W Exh. A). W Exh. F (report from Hamm to Peterson) shows that Huffman received a written report dated April 12, 1957 but one that did not contain the species data essential as evidence for conception.
>
> Hamm testified that preparation of computer printouts on such tests (H Exh. 28) took as long as a couple of months (WX D). There is no evidence to show that Hamm discussed these tests (H Exh. 26) with Huffman or that he corresponded with or submitted any reports bearing on these tests (H Exh. 26) with Huffman or that he corresponded with or submitted any reports bearing on these tests other than W Exh. F mentioned above (W Exh. E) prior to the May 27, 1957 filing date of the Huffman application.
>
> The party Huffman has made no effort to prove that Huffman personally received the data of the

> March 27, 1957 tests prior to its May 27, 1957 filing date and makes no assertion that Huffman ever received the data. Conception of an invention must be by the inventor. *Bedford v. Boothroyd* et al., 51 CCPA 713, 319 F.2d 100 [200], 138 USPQ 42. We hold that, under the circumstances now brought out, the Hamm March 27, 1957 test, the results of which were not communicated to Huffman before his filing date, does not constitute evidence of conception by Huffman prior to his May 27, 1957 filing date.

Plaintiff's Exhibit 12D. Consequently, the Board of Patent Interferences held that:

> Since [Rohm and Haas has] proven conception prior to the [Monsanto] filing date and diligence from just prior to the [Monsanto] filing date up to either the reduction to practice by the tomato lay-by field test or to the reduction to practice by the potato lay-by field test in September, 1957, [Rohm and Haas] must prevail in this interference.

Plaintiff's Exhibit 12D. The Board of Patent Interferences found further that Rohm and Haas "must also prevail in this interference on the basis of first conception on April 4, 1957 followed by diligence from just prior to Huffman's filing date of May 27, 1957 to the constructive reduction to practice by filing their parent application on February 13, 1958." Plaintiff's Exhibit 12D. Accordingly, on the basis of the above rulings, the Board of Patent Interferences awarded priority of invention to Rohm and Haas. Plaintiff's Exhibit 12A. *See also* Testimony of Walter Modance.

98. Subsequently, on August 31, 1971 Monsanto appealed the decision of the Board of Patent Interferences awarding priority of invention to Rohm and Haas to the United States Court of Customs and Patent Appeals. Testimony of Rudolf Hutz; Plaintiff's Exhibit 12D. On January 16, 1973, a joint motion to dismiss filed by the

parties to the interference was granted and the appeal was dismissed. Plaintiff's Exhibit 12D. *See also* Defendants' Exhibit 325. Upon termination of the interference, jurisdiction for further prosecution of the 1961 application was returned to the examining division of the Patent Office. Testimony of Rudolf Hutz. *See also* Testimony of Walter Modance.

5. *Litigation Between Monsanto and Rohm and Haas*

99. During the pendency of the interference proceedings, Monsanto had filed a divisional application on February 3, 1967 based on its application involved in the interference. The divisional application contained a single claim drawn to propanil *per se*. Plaintiff's Exhibit 11. Monsanto's divisional application issued as United States Patent 3,382,280 on May 7, 1968. Plaintiff's Exhibits 10, 11, 13, 30.

100. Immediately upon receiving this patent, Monsanto filed six lawsuits, one of which was against Rohm and Haas and another against the Dawson Chemical Company, alleging infringement of its newly acquired patent. Plaintiff's Exhibits 13, 30.

101. The suit between Rohm and Haas and Monsanto was hard fought from the commencement of the action. After extensive discovery was conducted by both sides, the trial of the cause began on November 12 and concluded on November 19, 1969. Plaintiff's Exhibits 8, 9, 10, 13. On February 17, 1970, the Court entered its Findings of Fact and Conclusions of Law in support of its decision that Monsanto's patent on propanil *per se* was invalid and unenforceable because Monsanto had engaged in fraud and inequitable conduct in the procurement of its patent. Plaintiff's Exhibit 13. In addition, the trial court found that propanil *per se* was "obvious" within the meaning of 35 U.S.C. § 103, and that as propanil *per se* was described implicitly in prior art as a compound, pro-

panil *per se* was anticipated within the meaning of 35 U.S.C. § 102. Notwithstanding its conclusion regarding anticipation, the trial court found that "[t]he use of 3,4-DCAA and [propanil] as selective post-emergent herbicides was not revealed or in any way suggested in the prior art before May 27, 1956." Plaintiff's Exhibit 13.

102. Subsequently, Monsanto appealed and on January 12, 1972, the United States Court of Appeals for the Third Circuit, 456 F.2d 592, affirmed the district court's decision that Monsanto's patent was invalid for fraud and inequitable conduct in the procurement of the patent on propanil *per se*. Plaintiff's Exhibit 14.

6. *Renewed Prosecution of the 1961 Application*

103. In 1973, prosecution of the 1961 application was renewed. The prosecution of the 1961 application was undertaken by outside counsel skilled in patent law. The earlier *ex parte* prosecution had been the responsibility of an in-house patent agent of Rohm and Haas who had since died. Testimony of Rudolf Hutz.

104. Rohm and Haas' in-house patent counsel, Mr. George Simmons, was aware that a judgment had been entered in the Monsanto-Rohm and Haas litigation invalidating Monsanto's patent on the basis of misrepresentations contained in "Husted's" affidavit. *See* Plaintiff's Exhibit 13, 14. Consequently, Simmons wanted to ensure that Rohm and Haas disclosed completely all operative facts to the Patent Office during the renewed prosecution of the 1961 application. Testimony of George Simmons. Simmons had an employee of Rohm and Haas by the name of Dr. Craig review the various affidavits underlying the 1958, 1960, and 1961 applications against Rohm and Haas' data records to determine whether the data presented in the affidavits had been fairly made, or whether they instead represented only a selection of data most favorable to Rohm and Haas' position on patentability. Testimony of George Simmons. Simmons had

Craig gather up also all of Rohm and Haas' herbicidal data on propanil and related anilides. Testimony of George Simmons.

105. Subsequently, Craig and McRae met with Rudolf Hutz, an attorney with the outside law firm employed by Rohm and Haas to man the laboring oar during the prosecution of the 1961 application. The purpose of the meeting was to discuss the data which had been collected pursuant to Simmons' orders. At the conclusion of this meeting, Hutz asked Craig and McRae to search the Rohm and Haas data records again and compile some additional data records. Thereafter, Craig and McRae again met with Hutz and during the course of a meeting lasting all day, discussed Rohm and Haas' data with him. Testimony of Rudolf Hutz. *See also* Testimony of Dougal McRae.

106. On January 29, 1973, Hutz called Mr. Marcus, the supervisor of the patent examiner in charge of the 1961 application to discuss arrangements for a possible interview with the patent examiner. The interview was to take place before the Patent Office renewed its examination of the 1961 application. Testimony of Rudolf Hutz; Plaintiff's Exhibit 158. It was noted that Hutz intended to present a large group of documents and arrangements for a suitable room were discussed. Hutz stated also that he believed the documents could be presented rapidly if he was given an adequate amount of time to properly arrange the documents that were going to be presented to the patent examiner. Testimony of Rudolf Hutz; Plaintiff's Exhibit 158.

107. On February 14, 1973, patent examiner Thomas called Hutz to confirm the time and arrangements for the interview scheduled for February 16, 1973. When asked if there were any particular areas which the examiner desired to discuss at the interview, patent examiner Thomas told Hutz that he had no specific thoughts at that time. Plaintiff's Exhibit 159.

108. On February 16, 1973, Rohm and Haas held an extensive interview with patent examiner Thomas. Intensive preparations were carried out for this interview to identify areas of potential interest to the patent examiner and to collect and organize documents in logical sequence to be presented to the Patent Office. Representatives of both the Department of Justice, which was investigating Monsanto in connection with Monsanto's fraud on the Patent Office, and the Patent Office Solicitor's Office, the department responsible for handling inter party issues of fraud and inequitable conduct, were invited to attend the interview, as well as the Chief of the Examining Group, Mr. Marcus. Despite these invitations, only patent examiner Thomas was present throughout the entire interview. Mr. Marcus, however, was present at the beginning of the interview and remained available for consultation if serious questions arose. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of James Thomas; Plaintiff's Exhibits 158, 160, 164, 165. *See also* Testimony of Walter Modance.

109. James O. Thomas, Jr., the patent examiner who was responsible for the renewed examination of Rohm and Haas' 1961 application, had been involved previously with Rohm and Haas efforts to obtain a patent on propanil. Thomas had been responsible for declaring Interference 93,751 among Monsanto, Rohm and Haas and Bayer. Testimony of James Thomas; Plaintiff's Exhibits 2, 12A. *See also* Testimony of Rudolph Hutz; Testimony of Walter Modance. Thomas was also the patent examiner who had rendered the "Decision on Motions" during the motion period in Interference 93,751. Testimony of James Thomas; Plaintiff's Exhibit 12A. *See also* Testimony of Rudolf Hutz; Testimony of Walter Modance.

110. At the time of the renewed prosecution in February, 1973, Thomas held the position of primary examiner. Such a position vested Thomas with authority to decide

issues of patentability without supervision. Testimony of James Thomas. *See also* Testimony of Rudolf Hutz; Testimony of Walter Modance.

Since 1956, Thomas had examined patent applications in the area of herbicides, and consequently Thomas had examined thousands of such applications. Testimony of James Thomas. In 1973, Thomas was the recognized herbicide expert in the Patent Office, and he was familiar with the prior art available in the field. Testimony of James Thomas; Testimony of Walter Modance. He had 8 or 10 other applications involving the same subject matter as Rohm and Haas' 1961 application pending before him in 1973. Thomas was well aware also of the herbicidal activity of propanil and related compounds, and he was familiar with the review and interpretation of herbicidal data sheets. Testimony of James Thomas.

111. At the request of Rohm and Haas' counsel, the interview was held in a conference room, rather than in the patent examiner's own small office. On tables that were available in the conference room, documents which were to be discussed with the patent examiner were spread out for ease of reference. Testimony of Rudolf Hutz; Testimony of James Thomas; Plaintiff's Exhibits 158, 159, 164. Testimony of Dougal McRae. Thomas brought the prosecution files for the Rohm and Haas applications with him to the interview and indicated that he had reviewed them prior to the interview. Testimony of Rudolf Hutz; Testimony of James Thomas; Plaintiff's Exhibit 164.

112. During the interview, Rohm and Haas' counsel summarized and explained the key events which had occurred in the prior proceedings in the case including, but not limited to, the litigation between Monsanto and Rohm and Haas and Interference 93,751. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's

Exhibits 2, 164, 165. Copies of the trial court and appellate decisions, Plaintiff's Exhibits 13, 14, as well as Rohm and Haas' appellate brief, Plaintiff's Exhibit 7, were left with the patent examiner Thomas for his review. Rohm and Haas gave patent examiner Thomas also all four volumes of the Appendix before the appellate court in the Monsanto appeal. Plaintiff's Exhibits 8-11. Rohm and Haas marked the index of the Appendix for items therein which might be of particular interest to the patent examiner Thomas, including: the stipulation and statement of uncontested facts; the trial testimony of McRae, one of the inventors of the invention claimed in the patent application; the prosecution of the Monsanto application, which led the courts to find fraud and inequitable conduct; original data records of both Rohm and Haas and Monsanto showing herbicide activity for propanil and related compounds; and certain publications and summary data sheets prepared by Rohm and Haas for use in the Monsanto trial summarizing herbicidal data in Monsanto's records for propanil and related compounds. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibits 6, 162, 164. The patent examiner stated at the interview that he intended to review these items after the interview. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibit 164.

113. When patent examiner Thomas returned these documents several weeks later, he stated that he had reviewed the pertinent parts of the documents. Testimony of Rudolf Hutz; Plaintiff's Exhibit 6; Defendants' Exhibit 50.

114. Rohm and Haas' counsel's discussion at the February 16, 1973 interview of the decision in the litigation between Monsanto and Rohm and Haas and his further disclosure to patent examiner Thomas of Monsanto's con-

tention that Rohm and Haas had withheld herbicidal data from the patent office together with his notation to patent examiner Thomas of the trial court's comments in the Monsanto litigation that "Monsanto and Rohm and Haas were equally disingenuous with respect to the comparison of the herbicidal effects of DCAA and DCPA in their applications to the Patent Office", Plaintiff's Exhibit 9, alerted the patent examiner to the importance of comparative herbicidal data. Testimony of Rudolf Hutz; Testimony of Dougal McRae.

115. Hutz and McRae also brought with them to the interview a substantial number of documents for discussion with the patent examiner. Most of these documents, except for a few marked during the interview at the patent examiner's specific request, had been consecutively numbered prior to the interview starting with 500,000 (hereinafter 500,000 series documents). Testimony of Rudolf Hutz; Testimony of Dougal McRae; *see* Plaintiff's Exhibit 5. Although Hutz repeatedly offered to file these documents in the Patent Office, the patent examiner elected to have them remain with Rohm and Haas, and the 500,000 series documents were thereafter retained intact by Rohm and Haas' attorneys. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibits 2, 165.

116. Rohm and Haas' counsel discussed also with patent examiner Thomas the prior art that had been raised during the prior prosecution of Rohm and Haas' applications, the prior art that Rohm and Haas had relied on during the Monsanto litigation, and the prior art that had been cited against Monsanto's application prior to the issuance of Monsanto's patent.[12] Testimony

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[12] Specifically, the prior art cited and discussed with the patent examiner included the following:

[Continued]

of Rudolf Hutz; Plaintiff's Exhibits 2, 164, 165. *See also* Plaintiff's Exhibits 8-11.

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[12] [Continued]

1958 Application of Wilson et al Office Action Oct. 14, 1958

Sexton 2,444,905 7/13/48

Ng.Ph. Buu-Hoi, Rec.Trav.Chim. 73, pp. 197-202 (1954)

Williams et al JACS, 1931, 3125-31

Surrey et al, JACS, 68 pp. 514-17 (1946)

Braun, Ann. 453, pp. 113-47 (1927)

Ozawa, J. Pharm.Soc., Japan, Vol. 73, pp. 719-21 (1953)

Office Action July 14, 1959

Gertler et al Chem.Ab. Vol. 50 (1956) pp. 17297-8

Office Action July 11, 1962

German Auslegeschrift 1,005,784 Apr. 4, 1957 (Fischer)

1960 Application of Wilson et al Office Action Aug. 3, 1960

Stewart	2,636,816	4/28/53
Coleman et al	2,386,779	10/16/45
Smith	2,226,672	12/31/40

Buu-Hoi, Recueil Dec. Travaux Chimiques, Vol. 73, pages 197-202 (1954)

Surrey	2,732,403	1/24/56
Jacob et al	2,727,071	12/13/55
Hill et al	2,876,088	3/3/59
Cupery	2,705,195	3/29/55

Office Action Dec. 2, 1960

Beilstein Handbuch der Organischen Chemie, *Vol. 12,* (4th Ed.) pp. 622, 626, 628, 629 (1929)

1961 Application of Wilson et al Office Action Sept. 14, 1961

Fischer	1,005,784	9/12/57

"Plant Regulators", CBCC Positive Data Series, No. 2, June 1955, Nat. Research Counsel, pages a, b, c, 1, 39 and 40

Beilstein Handbuch der Organischen Chemie, Vol. *12,* (4th Ed.) pp. 622-629

Randall et al 2,849,465 8/26/58

[Continued]

117. In preparation for the interview with the patent examiner and influenced by the trial court and appellate

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[12] [Continued]

King "Insecticides and Repellents", Agri., Handbook, No. 69, page 285, issued May 1954.

Specifically, Rohm and Haas' counsel discussed the following prior art:

Relied On By Rohm and Haas At Trial *

Bienert Patent No. 2,133,340, Oct. 18, 1938

FIAT Final Report No. 1313 dated Feb. 1, 1948 (PB 85172), cover page and pp. 273, 321 and 575

Fontein, Recueil Des Travaux Chiminques Des Pays Bas 47, pp. 635-667 (1928)

Chattaway J. Chem.Soc.Trans. 81, pp. 637-44 (1902)

Shaw et al, "Weeds" Vol. 2, pp. 43-65 (1953)

Todd Patent No. 2,655,445, Oct. 13, 1953

King "Insecticides and Repellents", U.S. Dept. Agri., Handbook, No. 69, pp. 2, 3, 24, 25, May 1954

Cited In The Huffman et al Applications

Thompson et al, "Botanical Gazette", June 1946, pp. 475-507 (pp. 499 and 506 applied)

Vecchiotti, "Chem.Abs.", Vol. 22, column 2555(3) 1928 Butt-Hoi, Chem. abs., Vol. 49, column 5341(f) 1955

Hamm et al, "Agricultural and Food Chemistry", Vol. 4, No. 6, June 1956, pp. 518-522

King "Insecticides and Repellents", U.S. Dept. Agri., Handbook, No. 69, page 94 (May 1954)

Hamm et al, "Agricultural and Food Chemistry", Vol. 5, No. 1, January 1957, pp. 30-32

Hamm et al 2,863,752, Dec. 9, 1958

"Plant Regulators" CBCC Positive Data Series, No. 2, June 1955, Nat. Research Counsel, page 3

Of the above art, the Patent Office alleged that herbicidal activity was at least suggested in:

Smith, U.S. Patent 2,226,672,

Thompson et al "Botanical Gazette" pp. 475 to 507,

[Continued]

decisions in the litigation between Monsanto and Rohm and Haas, *see* Plaintiff's Exhibits 13, 14, Rohm and Haas collected all records available to it reflecting herbicidal test data on propanil and related compounds regardless of whether the related compounds were prior art or data which came from Rohm and Haas, Monsanto or other sources. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of George Simmons. These documents, premarked with numbers beginning with 500,000, *see* Plaintiff's Exhibit 5, were collected specifically for the February 16 interview. The identity of the compounds for which data existed was brought to the patent examiner's attention at the interview. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of George Simmons; Plaintiff's Exhibits 2, 160, 163-165.

118. Among such herbicidal test data were Rohm and Haas' records from which several affidavits had been prepared and filed in the Patent Office in the previous prosecutions of the 1958, 1960 and 1961 applications. To the extent that such base records could be reconstructed, they were identified, keyed to the prior affidavits, compared side by side with each of the affidavits and discussed with the patent examiner at the interview. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibits 2, 163, 165. Rohm and Haas did not limit its disclosures to the patent examiner to tests from

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[12] [Continued]

Hamm "Ag. and Food Chemicals",

Stewart, U.S. Patent 2,636,816,

CBCC Plant Regulators,

Hamm, U.S. Patent 2,863,752, and
Shaw, "Weeds".

Plaintiff's Exhibits 2, 165. *See also* Testimony of Rudolf Hutz; Plaintiff's Exhibit 164. Rohm and Haas' counsel also raised and discussed with patent examiner Thomas Monsanto's patent 3,382,280, the patent invalidated during the Monsanto litigation, as prior art.

which affidavit data had been taken. Instead, it supplied all data available to it on related compounds. Testimony of Rudolf Hutz; Testimony of George Simmons; Plaintiff's Exhibits 2, 164, 165.

119. During the interview, the patent examiner was informed that Rohm and Haas had been unable to locate all of the test data in its records corresponding to data recited in the affidavits filed earlier with the Patent Office. Testimony of Rudolf Hutz; Testimony of Dougal McRae. The patent examiner was informed also that there were data in its records that had not been reported initially to the Patent Office during the prior prosecutions of the Rohm and Haas patent applications. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibits 164, 169.

120. Test data specifically identified and discussed with the patent examiner during the February 16 interview illustrated, *inter alia*, that propanil was not unique as a pre-emergence or general herbicide, that propanil damaged some crops, that related compounds displayed relatively high herbicidal activity, and that related compounds such as 3,4-dichloracetanilide, also known as "3,4-DCAA", 3,4-dichloroisobutyranilide, also known as "3,4-DCiBA", and 3,4-dichloro-a-methylvaleranilide, also known as "3,4-DCMVA", possessed some selective, post-emergence herbicidal activity. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibit 165. *See also* Testimony of Ruppert Palmer; Plaintiff's Exhibits 2, 160, 164.

121. Although Rohm and Haas admittedly was unable to locate all of the documents containing herbicidal data for propanil and related compounds for presentation to the patent examiner at the February 16 interview, Testimony of Rudolf Hutz; Testimony of Dougal McRae; a search for all of such data was conducted. Testimony

of Rudolf Hutz; Testimony of Dougal McRae. Refer to Findings 104, 105. No additional herbicidal data has been subsequently uncovered or relied upon by defendants in support of their allegations of fraud and inequitable conduct in procurement of plaintiff's patent. Testimony of Rudolf Hutz; Testimony of Dougal McRae.

122. During the interview, Rohm and Haas disclosed the existence of foreign counterparts to Rohm and Haas' 1958 application; such foreign counterparts and applications were identified in documents submitted to the patent examiner. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Plaintiff's Exhibits 2, 7, 8, 13, 14, 165. *See also* Plaintiff's Exhibits 6, 160, 164; Defendants' Exhibit 19. These foreign counterparts had no effect on the patentability of the claims presented during the renewed prosecution of the 1961 application with regards to prior art. Testimony of Donald Dunner; Plaintiff's Exhibit 2.

123. The interview with the patent examiner on February 16, 1973 lasted approximately 2½ hours. This interview was considerably longer than normal interviews between applicants and patent examiners. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of James Thomas; Plaintiff's Exhibits 159, 164. *See also* Testimony of Donald Dunner; Testimony of Walter Modance.

124. Following the February 16 interview, Rohm and Haas filed an amendment on March 7, 1973 summarizing the interview. *See* Plaintiff's Exhibits 2, 165. At the conclusion of the amendment, Rohm and Haas, as it had done during the interview, offered specifically to supply more information and copies of any document discussed at the interview. A similar offer was made in each of the subsequent amendments filed during the renewed prosecution of the 1961 application. Testimony of Rudolf Hutz; Tes-

timony of Dougal McRae. Plaintiff's Exhibits 2, 165. *See also* Plaintiff's Exhibits 160, 164.

In its March 7 amendment, Rohm and Haas cancelled claims 9 to 25 and presented an entirely new set of claims numbered 26 to 39;[13] none of such claims specifically

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[13] The new claims presented in the amendment are as follows:

26. A method for selectively inhibiting growth of undesirable plants in an area containing emerged undesirable plants in an agronomic crop, which comprises applying to said area 3,4-dichloropropionanilide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said agronomic crop.

27. The method according to claim 26 wherein the 3,4-dichloropropionanilide is applied in a composition comprising 3,4-dichloropropionanilide and an inert diluent therefor at a rate of between 0.5 and 6 pounds of 3,4-dichloropropionanilide per acre.

28. The method according to claim 27 wherein the agronomic crop is monocotyledonous and the undesirable plants include monocotyledonous plants.

29. The method according to claim 27 wherein the agronomic crop is monocotyledonous and the undesirable plants include dicotyledonous plants.

30. The method according to claim 27 wherein the agronomic crop is dicotyledonous and the undesirable plants include monocotyledoneous plants.

31. The method according to claim 27 wherein the agronomic crop is dicotyledonous and the undesirable plants include dicotyledonous plants.

32. The method according to claim 28 wherein the monocotyledonous agronomic crop is a grain crop.

33. The method according to claim 28 wherein the undesirable monocotyledonous plants are annual plants in the tender state.

34. The method according to claim 33 wherein the undesirable annual monocotyledonous plants include barnyard grass.

[Continued]

recited rice. The broadest of the new claims was patterned after the interference count, and this claim, along with several of the more narrowly drafted claims, embraced generically rice as a crop within which weeds were selectively controlled by post-emergence applications of propanil. Plaintiff's Exhibits 2, 165.

125. At the conclusion of the February 16 interview, Rohm and Haas was of the good faith belief that patent examiner Thomas appreciated the information supplied and its implications. Patent examiner Thomas was again reminded of these disclosures at a subsequent interview, and he advised Rohm and Haas that he was fully satisfied and required no further information. Testimony of Rudolf Hutz; *See also* Plaintiff's Exhibit 169. Rohm and Haas was entitled to rely on its reasonable belief that Mr. Thomas understood what he had been told and had

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[13] [Continued]

35. The method according to claim 26 wherein the agronomic crop is a member selected from the group consisting of tomatoes and potatoes.

36. A method for selectively inhibiting the growth of emerged, tender, undesirable, annual, monocotyledonous plants which are susceptible to 3,4-dichloropropionanilide, said undesirable plants growing in an area containing an agronomic crop which is resistant to 3,4-dichloropropionanilide and an inert carrier therefor at a rate of application which inhibits growth of said undesirable plants and which does not substantially affect the growth of said agronomic crop.

37. The method according to claim 36 wherein the undesirable plants include barnyard grass and the agronomic crop is monocotyledonous.

38. The method according to claim 37 wherein most of the undesirable plants are destroyed by the 3,4-dichloropropionanilide applied thereto without substantial adverse effect on the crop growing therewith.

39. The method according to claim 36 wherein the agronomic crop is dicotyledonous.

Plaintiff's Exhibits 2, 165.

taken the disclosures into account when allowing the Wilson patent.

126. During the February, 1973 interview, Rohm and Haas called the patent examiner's attention to the work of Takematsu as well as certain assertions made by Monsanto during Interference 93,751 relating to Takematsu's experiments on rice. Plaintiff's Exhibit 2.

127. Regarding Dr. Takematsu's work and his January, 1959 paper reflecting his findings,[14] Rohm and Haas' post interview amendment advanced two basic contentions. First, Rohm and Haas asserted that assuming arguendo though not conceding that Takematsu's paper was a publication, the claims presented by the March 1973 amendment were fully supported in the 1958 application, and hence such claims had an effective filing date well prior to any work by Dr. Takematsu and to the alleged January 1959 publication. The second argument made by Rohm and Haas was that Takematsu's work under the circumstances inured to Rohm and Haas' benefit; Testimony of Rudolf Hutz; Plaintiff's Exhibits 2, 165; such had been the conclusion of the Assistant Commissioner of Patents during the interference proceedings.

128. During the early prosecution of the three patent applications before the Patent Office between 1959 to 1962, Rohm and Haas submitted a number of affidavits in support of their contention that propanil displayed unobvious, unique and distinctive selective, post-emergence herbicidal activity as compared to a number of structurally related compounds. *See* Plaintiff's Exhibits 2, 3, 4; Defendants' Exhibits 58-63. As defendants argued and as plaintiff has admitted, at the time the six allegedly defective affidavits were submitted to the Pat-

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[14] Although Rohm and Haas never conceded that Dr. Takematsu's paper was a publication, it asked the patent office to assume that it was for the purposes of prosecution. Testimony of Rudolf Hutz; Plaintiff's Exhibits 2, 165.

ent Office, all of the test data available to Rohm and Haas were not disclosed in the affidavits. The Rohm and Haas employee who was responsible for the early prosecution of the patent in suit and for deciding which data were to be submitted in affidavits to the Patent Office died before the issuance of the patent in suit and the commencement of this litigation. The reasons behind his actions were not disclosed during the trial of this cause, and it has been represented to this Court that such motives, if any, are not known.

What is important to this Court's inquiry into the validity of Rohm and Haas' patent in light of defendants' fraud allegations is the fact that McRae, the person who executed but did not prepare the affidavits, believed that such affidavits and the assertions contained in such affidavits to be accurate. Testimony of Dougal McRae. More importantly, at the February 16, 1973 interview, Rohm and Haas' counsel informed patent examiner Thomas of the omissions of herbicidal test data from the earlier filed affidavits. In addition, Rohm and Haas' counsel supplied to the extent possible the omitted data and all other herbicidal data in Rohm and Haas' possession to the patent examiner. Consequently, the Court is of the belief that all of the deficiencies which existed in the prosecution of the three Rohm and Haas patent applications from 1958 to 1963 were corrected by the complete and detailed disclosure of herbicidal data and information to the Patent Office in 1973; such disclosure was made within sufficient time for the Patent Office to take whatever action it deemed necessary. No claims presented in the previous prosecutions of the 1958, 1960 and 1961 applications, with the exception of claim 9 in the 1961 application which had been allowed for interference purposes only and had been cancelled subsequently by the first amendment filed in the renewed prosecution, had been allowed prior to Rohm and Haas' full disclosure in 1973. Nothing whatsoever prevented

examiner Thomas from rejecting claims during the renewed prosecution even though claim 9 had been previously allowed. Testimony of James Thomas.

129. Moreover, the Court finds that Rohm and Haas' dealings with patent examiner Thomas during the renewed prosecution of the 1961 application were reasonably based on its belief that patent examiner Thomas was qualified as an expert in the herbicide field, experienced in the prosecution of patent applications, and able to read and comprehend herbicide data sheets of the type that was discussed with the examiner during the February 16 interview. Testimony of Rudolf Hutz. *See also* Plaintiff's Exhibits 2, 164, 165.

130. On July 5, 1973, the patent examiner rejected claim 35 pursuant to 35 U.S.C. § 112 "as being improper in Markushing the crops therein. The Markush practice is limited to chemical substances and not extended to plants to be treated." Plaintiff's Exhibit 2 at 258. The patent examiner rejected also claims 26 to 39 pursuant to section 112 on the basis that certain terms, *i.e.*, "emerged" and "Agronomic crop", were not found in the specification of the pending application. Claims 28, 29, 32 to 34, and 36 to 38 were rejected further under 35 U.S.C. § 102(f) as such claims encompassed an invention, *i.e.*, selectivity in rice, that the applicants apparently did not make. The patent examiner found this rejection proper on the basis of the inventor's admissions during the proceedings in Interference 93,751, and the fact that the claims being rejected were limited substantially to selectively inhibiting undesirable plants in rice. In further support of the examiner's rejection of claims 29, 32 to 34 and 36 to 38, the patent examiner found that such claims were obvious from Takematsu's work which disclosed that propanil was an effective selective herbicide in rice. In making these rejections, the patent examiner recognized that the claims being presented were generic to and embraced rice as a crop, a

conclusion with which Rohm and Haas expressly agreed. Testimony of Rudolf Hutz; Plaintiff's Exhibit 2; *see also* Plaintiff's Exhibit 163.

131. On July 25, 1973, Rohm and Haas, through its attorney Hutz, met patent examiner Thomas to discuss the recent rejections of Rohm and Haas' claims. At this interview, it was agreed that Rohm and Haas would submit their arguments in opposition to the examiner's rejections in writing. Plaintiff's Exhibit 2. *See also* Plaintiff's Exhibit 169.

132. In an amendment filed August 7, 1973, Rohm and Haas cancelled claims 26 to 39 without prejudice and added claims 40 to 54. The new claims were substantially similar to the recently cancelled claims with the exception that the terms "emerged" and "agronomic crop" were deleted and replaced by the terms "growing" and "established crop" respectively. In addition, the Markush group criticized by the examiner was deleted and replaced by two new claims, one drawn to tomatoes, *see* claim 53, and the other to potatoes, *see* claim 54.[15]

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[15] The following claims added by the August 7 amendments:

40. A method for selectively inhibiting growth of undesirable plants in an area containing growing undesirable plants in an established crop, which comprises applying to said area 3,4-dichloropropionanilide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said established crop.

41. The method according to claim 40 wherein the 3,4-dichloropropionanilide is applied in a composition comprising 3,4-dichloropropionanilide and an inert diluent therefor at a rate of between 0.5 and 6 pounds of 3,4-dichloropropionanilide per acre.

42. The method according to claim 41 wherein the established crop is monocotyledonous and the undesirable plants include monocotyledonous plants.

48. The method according to claim 47 wherein the undesirable annual monocotyledonous plants include barnyard grass.

[Continued]

133. The amendment presented also Rohm and Haas' arguments that Takematsu's work was immaterial to the patentability of Rohm and Haas' claims as it was antedated by Rohm and Haas' parent application filed in 1958, and that Takematsu's work was not an independent

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[15] [Continued]

49. A method for selectively inhibiting the growth of growing, tender, undesirable, annual, monocotyledonous plants which are susceptible to 3,4-dichloropropionanilide, said undesirable plants growing in an area containing an established crop which is resistant to 3,4-dichloropropionanilide, which comprises applying to said undesirable plants a composition comprising 3,4-dichloropropionanilide and an inert carrier therefor at a rate of application which inhibits growth of said undesirable plants and which does not substantially affect the growth of said established crop.

43. The method according to claim 41 wherein the established crop is monocotyledonous and the undesirable plants include dicotyledonous plants.

44. The method according to claim 41 wherein the established crop is dicotyledonous and the undesirable plants include monocotyledonous plants.

45. The method according to claim 41 wherein the established crop is dicotyledonous and the undesirable plants include dicotyledonous plants.

46. The method according to claim 42 wherein the monocotyledonous established crop is a grain crop.

47. The method according to claim 42 wherein the undesirable monocotyledonous plants are annual plants in the tender state.

51. The method according to claim 50 wherein most of the undesirable plants are destroyed by the 3,4-dichloropropionanilide applied thereto without substantial adverse affect on the crop growing therewith.

52. The method according to claim 49 wherein the established crop is dicotyledonous.

53. The method according to claim 40 wherein the established crop is tomatoes.

54. The method according to claim 40 wherein the established crop is potatoes.

Plaintiff's Exhibit 2.

invention but was undertaken at Rohm and Haas' request, and as found by Assistant Commissioner of Patents during Interference 93,751, such work inured to the benefit of Rohm and Haas. Plaintiff's Exhibit 2.

134. In an office action dated November 9, 1973, the patent examiner allowed formally claims 40, 41, 53 and 54. Claims 42-52 were rejected, however, on the basis of 35 U.S.C. § 112, as such claims failed to disclose sufficiently the specificity and selectivity among crops and undesirable plants recited in those claims. Certain claims, specifically 42, 43 and 46 to 51, were rejected under 35 U.S.C. § 102(f) because they contained an invention Rohm and Haas had admittedly not made. The examiner stated that "[t]his rejection is on the basis of admission by applicants and not on the Takematsu work as alleged," and accordingly, "the question of whether this independent invention inures to the instant applicants is not at issue." Plaintiff's Exhibit 2. Finally claims 42, 43 and 46 to 51 were rejected as obvious from the Takematsu work:

> There is no question that the instant claims embrace controlling plant growth in rice, an invention of another and unsupported in the parent application and therefore the Takematsu et al article is a proper reference. The applicants have not indicated where in the parent application the invention taught by Takematsu et al is supported and therefore the argument and decisions cited in support thereof are non-persuasive of error in this rejection. General allegations as to generic invention versus species is not the issue here. Rather, it is a separate and distinct invention made by another and available as a reference that renders the claimed invention prima-facia [sic] obvious.

Plaintiff's Exhibit 2 at 331.

135. On November 19, 1973, Hutz telephoned patent examiner Thomas to seek clarification of the patent ex-

aminer's recent decision. Thomas informed Hutz that if Rohm and Haas could establish to Thomas' satisfaction that the rejected claims were supported by the 1958 parent application, the rejection on the basis of 35 U.S.C. § 103 would be withdrawn. Hutz and patent examiner Thomas discussed also the rejection on the basis of 35 U.S.C. § 102(F). Hutz explained that he did not think that McRae had ever made a statement denying inventorship of the invention contained in Rohm and Haas' patent application. Thomas responded with the suggestion that McRae execute a declaration or affidavit and file it with the Patent Office for the patent examiner's consideration. Testimony of Rudolf Hutz; Plaintiff's Exhibit 167.

136. On December 12, the patent examiner and Rohm and Haas' counsel met to discuss in detail the recent rejections of Rohm and Haas' claims. At this interview Hutz urged his arguments in opposition to the examiner's rejection, presented the patent examiner with a declaration executed by McRae for the purpose of refuting any admission made by McRae during his testimony in the Monsanto litigation with respect to the Takematsu work, presented a draft of proposed claims to replace the previously rejected claims, claims 55 to 61; such claims were asserted to be dependent upon a claim previously allowed, claim 41, and recited either specifically or generally the protected crop and the controlled weed. Plaintiff's Exhibit 2.[16] Rohm and Haas

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[16] The claims added by the December amendment are as follows:

55. The method according to claim 41 wherein the established crop is monocotyledonous.

56. The method according to claim 41 wherein the established crop is dicotyledonous.

57. The method according to claim 41 wherein the undesirable plants include monocotyledonous plants.

[Continued]

cancelled also claims 42 to 50 and 52. Plaintiff's Exhibit 2.

137. On February 6, 1974, the examiner filed a communication reflecting that "[a]ll of the claims being allowable, prosecution on the merits is closed in this application and the Notice of Allowance or other appropriate communication will be sent in due course, in view of: a. Applicant's communication filed December 27, 1973." Plaintiff's Exhibit 2.

138. On March 25, 1974, the patent examiner found the 1961 application allowable for issuance of Letters Patent. Plaintiff's Exhibit 2. On June 11, 1974, Letters Patent No. 3,816,092 was issued. Plaintiff's Exhibit 1.

D. *Construction of the Patent Claims*

139. Defendants contend that the claims in the patent in suit must be read restrictively to exclude rice as a crop. Upon carefully reviewing the record in this cause, the Court is unable to accept this construction. A re-

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[16] [Continued]

58. The method according to claim 41 wherein the undesirable plants include dicotyledonous plants.

59. The method according to claim 41 wherein the established crop is a grain crop.

60. The method according to claim 41 wherein the undesirable plants include barnyard grass.

61. A method for selectively inhibiting the growth of growing, tender, undesirable, annual plants which are susceptible to 3,4-dichloropropionanilide, said undesirable plants growing in an area containing an established monocotyledonous crop which is resistant to 3,4-dichloropropionanilide, which comprises applying to said undesirable plants a composition comprising 3,4-dichloropropionanilide and an inert carrier therefor at a rate of application which inhibits growth of said undesirable plants and which does not substantially affect the growth of said established monocotyledonous crops.

Plaintiff's Exhibit 2.

view of the patent at issue reveals that the claims contained therein disclose use of propanil as a selective, post-emergence herbicide to inhibit the growth of undesirable plants in an area containing growing undesirable plants in an established crop. The patent contains claims where propanil is used to inhibit the growth of undesirable plants where such undesirable plants are growing in an area containing "monocotyledonous crops" and "grain crops". All of these terms, "crops", "monocotyledonous crops" and "grain crops" can be read literally to embrace rice. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of George Simmons; Plaintiff's Exhibit 2. *See also* Testimony of Donald Dunner.

140. A review of the history of the prosecution of Rohm and Haas' patent also leads to the conclusion that rice is included within the patent claims. Rohm and Haas' 1958 application described a generic invention including the post-emergence use of propanil to control weeds in a variety of resistant crops. Testimony of Dougal McRae; Plaintiff's Exhibit 4. At all times during the prosecution of the patent in suit, Rohm and Haas had at least one claim embracing broadly weed control in rice crops. Testimony of Dougal McRae; Plaintiff's Exhibit 2. *See also* Testimony of Donald Dunner. At no time time during the prosecution of the 1958, 1960 or 1961 applications did Rohm and Haas intend a limitation of the broad claims to exclude rice as the crop, and, indeed, Rohm and Haas consistently contended otherwise. Testimony of Rudolf Hutz; Testimony of Dougal McRae; Testimony of George Simmons; Plaintiff's Exhibits 2, 12A, 12B. *See also* Testimony of Donald Dunner. During the renewed prosecution, both the patent examiner and Rohm and Haas' counsel agreed that the claims, as issued, embraced rice. Testimony of Rudolf Hutz; Testimony of George Simmons; Plaintiff's Exhibits 2, 168. *See also* Testimony of Donald Dunner; Plaintiff's Exhibits 166, 169.

141. When Rohm and Haas filed its 1958 application, several factors were known to those skilled in the herbicide art to affect selectivity. These factors included chemical structure of the herbicide, application rate, species of plant, type of application, age of plant, and formulation. Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibits 4, 12A. These factors were and are interdependent. Testimony of Dougal McRae; Testimony of Ruppert Palmer. The 1958 application was not intended to and did not limit the described selectivity to a single factor such as age, and it set forth the various factors in the specification without restriction to one as the basis for propanil's selectivity. Testimony of Dougal McRae; Plaintiff's Exhibit 4, 12A, 127. *See also* Testimony of Ruppert Palmer.

142. The 1958 application was not limited to a particular age of the crop to be protected. Several specifically exemplified crops in the application had both old growth and young, tender and succulent growth at the time of treatment, and the existence of these two types of growth would be recognized by one skilled in the art upon reading the specification. Testimony of Dougal McRae; Plaintiff's Exhibit 4. Neither type of growth was harmed by propanil. Testimony of Dougal McRae; Plaintiff's Exhibit 4. Other crops mentioned in the specification were not limited to any particular age, and the broad objects of the invention included weed and crop treatment at any relative age. Testimony of Dougal McRae; Plaintiff's Exhibits 4, 128. *See also* Testimony of Ford Baldwin. Prior to filing the 1958 application, Dr. McRae had demonstrated crop selectivity where the crop, e.g. wheat, a grain crop, and weeds were at the same young age. Testimony of Dougal McRae; Plaintiff's Exhibits 4, 128.

143. The term "established" as contained in Rohm and Haas' patent does not limit the crop in terms of age, but rather means a crop which has at the very least emerged from the soil and is visible. Testimony of

Dougal McRae; Plaintiff's Exhibit 2. *See also* Testimony of Ruppert Palmer. This express meaning accompanied the first use of the term in the claims, and the patent examiner was well aware of and raised no objection to this meaning. Plaintiff's Exhibit 2; *See also* Testimony of Donald Dunner; Testimony of Walter Modance. At no time during the prosecution of the 1958, 1960 and 1961 applications was Rohm and Hass required, nor did it intend, to limit the desirable crop to a particular age. Testimony of Dougal McRae; Plaintiff's Exhibit 2.

144. Propanil is effective in controlling the growth of weeds in rice crops regardless of whether the crop has just emerged or is in a later stage of growth. Weeds are controlled and rice is unharmed, and propanil acts in exactly the same way, regardless of the age of the rice. Testimony of Ford Baldwin; Testimony of Ruppert Palmer.

145. Prior to the inclusion of the term "established" in the claims contained in Rohm and Haas' patent applications, McRae and Rohm and Haas had used the term "established" to mean "emerged", and had characterized rice in the "emerged" seedling stage as "established". Testimony of Gordon Brandes; Testimony of Dougal McRae; Plaintiff's Exhibits 2, 50, 55. *See also* Testimony of Ford Baldwin; Testimony of Rupper Palmer. The term "established" has been used similarly by others in the art. Testimony of Ruppert Palmer; Plaintiff's Exhibits 137, 146-48. *See also* Testimony of Ford Baldwin; Defendants' Exhibits 140, 141.

146. When Rohm and Haas first introduced propanil commercially as a selective, post-emergence herbicide in 1961, Rohm and Haas recommended that propanil be applied to the weeds and rice when barnyard grass, the key weed to be controlled, was in the 1 to early 4 leaf stage. Testimony of Gordon Brandes; Plaintiff's Exhibits 34, 41, 43, 45, 50, 53, 55-57, 58, 60, 165. Since that time, there has been no substantial change in this

recommended method of application; Testimony of Gordon Brandes; Testimony of Dougal MacRae; Plaintiff's Exhibits 47, 56, *see also* 39, 42-44, 48, 51, 52, and from that time to this day, purchasers of propanil follow this recommended procedure of application. Testimony of Ford Baldwin; Testimony of Richard Clipson; Testimony of Bill Fagala; Testimony of Barry Jeffrey; Testimony of Ruppert Palmer; Plaintiff's Exhibits 21, 139B, C, E, F.

147. Generally, rice and barnyard grass germinate and grow together, and they are essentially at the same stage of growth when propanil is applied. When barnyard grass is at the optimum 1 to early 4-leaf stage, rice is taller than the barnyard grass and has approximately the same number of leaves. Testimony of Gordon Brandes; Testimony of Ford Baldwin; Testimony of Richard Clipson; Testimony of Bill Fagala; Testimony of Barry Jeffrey; Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibit 34. *See also* Plaintiff's Exhibit 139A-E; Defendants' Exhibit 229.

E. *Prior Art*

148. Defendants filed notices pursuant to 35 U.S.C. § 282 listing eleven items of prior art which include patents and publications in support of their assertions of invalidity pursuant to 35 U.S.C. §§ 102 and 103. *See* Notice Under 35 U.S.C. § 282.[17] In addition to the pat-

[17] The prior art cited by the defendants in their motions filed pursuant to section 282 of Title 35 of the United States Code included the following:

Patents

Country	Number	Date	Patentee
Germany	1,005,784	April 4, 1957	Fischer
Germany	1,039,779	Sept. 25, 1958	Schafer, et al
United States	3,382,280	May 7, 1968	Huffman
United States	2,655,445	Oct. 13, 1953	Todd

[Continued]

ents and publications listed in their notices, defendants urge also several other items of alleged prior art in the hope of prevailing on their claim that the patent in suit is invalid pursuant to section 103. All of the prior art cited by defendants were cited and considered by the Patent Office during the prosecution of Rohm and Haas' applications. Testimony of James Thomas; Testimony of Rudolf Hutz; Plaintiff's Exhibits 2, 3, 4, 165.

149. South West African Patent 827/59 is a foreign counterpart of Rohm and Haas' 1958 Wilson application and was first patented on February 3, 1959. Defendants' Exhibit 320. German Auslegeschrift 1,039,779, issued in the name of Farbenfabriken Bayer Aktiengesellschaft; Leverkusen-Bayerwerk is the Bayer application involved in Interference No. 93,751. The earliest reference date for the application is September 25, 1958. Defendants' Exhibits 253, 313. Although the Bayer application was filed initially in April, 1957, the application as originally filed did not disclose propanil or its unique herbicidal activity. It was not until a subsequent application was filed on February 6, 1958 that propanil, but only as a compound *per se*, was disclosed. *See* Plaintiff's Exhibits 12A-12D.

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[17] [Continued]

Country	Number	Date	Patentee
South West Africa	827/59	Feb. 5, 1959	Wilson, et al
United States	2,863,752	Dec. 9, 1958	Hamm
United States	2,705,195	Mar. 29, 1955	Cupery, et al
United States	2,876,088	Mar. 3, 1959	Hill, et al

Publications

"Weeds", Vol. 2, Jan. 1953, pp. 43-65.

"Plant Regulators, CBCC Positive Data Series, No. 2", June 1955, pages a, b, c, 1, 39, and 40.

"Fundamental Studies Relating To Control Of Weeds In Farm Land", Takematsu, et al, January, 1959, pp. 67, 96, 99-110, 115, 116.

Defendants' Notice Under 35 U.S.C. § 282.

150. Assuming arguendo that the Takematsu booklet is a publication within the meaning of 35 U.S.C. § 102, such publication was distributed on approximately January 16, 1959, Plaintiff's Exhibits 2, 19, 20; Defendants' Exhibits 252, 323.

151. Each claim of the patent in suit is entitled to the benefit of the filing date of the 1958 application, *i.e.*, February 13, 1958. Consequently, the South West African Patent 827/59, German Auslegeschrift 1,039,779 and the Takematsu booklet are not prior art as to the claims contained in the patent in suit.

152. German Auslegeschrift 1,005,784, filed in the name of Fischer and assigned to BASF, has as its earliest reference date the same date accorded Rohm and Haas as its conception date by the Board of Patent Interferences in Interference 93,751, April 4, 1957. Plaintiff's Exhibits 12D, 20; Defendants' Exhibits 253, 314. Following this conception date of the invention contained in the patent in suit, Rohm and Haas' inventors were diligent in making large quantities of propanil, designing and initiating the 1957 summer field tests at Newtown Farm, and applying propanil and observing its effect on crops and weeds. Consequently, the inventors reduced their invention to practice in mid-1957. Testimony of Dougal McRae; Plaintiff's Exhibits 5, 12A, 12B, 12D. Although defendants attack the conception date awarded Rohm and Haas in Interference 93,751, they rely only on evidence which was before the Board of Patent Interference and have added nothing new to the record. Plaintiff's Exhibits 5, 12A, 12B, 12E.

Moreover, an independent review of the evidence demonstrates that Drs. McRae and Wilson conceived the claimed invention during the meeting of April 3, 1957, embodied that conception in the memorandum of April 4, 1957, and thereafter conducted a continuous series of tests which established numerous reductions to prac-

tice of the claimed methods. Testimony of Dougal McRae. Plaintiff's Exhibits 12E, 12Q. *See* Plaintiff's Exhibit 12D. Consequently, as the Court finds that the effective date of Rohm and Haas' invention is April 4, 1957, Fischer application 1,005,784 is not prior art under 35 U.S.C. § 102.

153. Assuming arguendo that the Fischer application was prior art, the Fischer application does not disclose or describe propanil. The Fischer application describes the killing of plant growth by using compounds of an incorrect general chemical formula that when corrected embraces an infinite number of compounds. Although some of the compounds included within the disclosure are 3,4-dichloroanilides, the Fischer application excludes from its teachings the class of compounds of which propanil is a member, *i.e.*, straight chain alkylanilides. Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibit 20; Defendants' Exhibits 253, 314. *See also* Testimony of George Simmons. One specifically named compound in the Fischer application is 3,4-dichloroisobutyranilide, but the data given in the application show that it has no selective herbicidal activity. The test data contained in the application reveal that all of the plants on which the compound was tested were killed. Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibit 20; Defendants' Exhibits 253, 314. Consequently, even if the Court were to assume that the Fischer application is an effective reference, the Court finds that the German application does not render obvious the methods of using propanil claimed in the patent in suit.

154. Huffman Patent 3,382,280 is the Monsanto patent which was invalidated in the litigation between Monsanto and Rohm and Haas. Plaintiff's Exhibit 13. Its earliest reference date is May 27, 1957, a date after the date of the conception of Rohm and Haas' invention. Plaintiff's Exhibits 12D, 13; Defendants' Exhibits 315,

324. Consequently, it is not prior art over the patent in suit.

Assuming arguendo that the Huffman patent was an effective reference, it does not render the methods claimed in the patent in suit obvious. While propanil is specifically identified in the Huffman patent, there is nothing in its teachings which suggest selective, post-emergence herbicide activity. The only post-emergence data for propanil reported in the Huffman patent show that all plants were killed or severely injured, *i.e.*, according to Huffman, propanil displayed general and not selective activity. Testimony of Ruppert Palmer; Plaintiff's Exhibits 2, 11, 12D; Defendants' Exhibit 324. General and selective herbicidal activity are distinctly different, and merely because a compound shows general activity, it does not necessarily follow that the compound will display selective activity.

155. Greenhouse observations made by Hamm in March 1957 do not constitute prior art in the instant cause, nor can such observations be combined with the Monsanto's 1957 application to create prior art. As found by the Board of Patent Interferences, a finding with which this Court agrees, the Hamm observations were at best a conception, though not an actual reduction to practice. Herbicidal tests on propanil performed by Monsanto both before and after Hamm's greenhouse observations did not indicate that propanil possessed selective properties. In addition, the application filed subsequently by Monsonto does not teach that propanil possesses selective, post-emergence herbicidal activity. Testimony of Dougal McRae; Plaintiff's Exhibits 12A, 12B, 12D. Refer to Finding 97.

Assuming arguendo once again that Hamm's observations constitute a conception of propanil's selective, post-emergence activity and could be combined with the application of another to create prior art, the prior art date would still be the filing date of Monsanto's application,

i.e., May 1957, a date after Rohm and Haas' invention date of April 4, 1957. Refer to Finding 97.

156. Although defendants assert that several companies simultaneously made the invention contained in the patent in suit, the record shows to the contrary. Neither BASF via the Fischer application nor FMC via the Gates application described propanil or its selective post-emergence activity. Although both taught that other chloroanilides exhibited varying herbicidal activity, propanil was excluded from the scope of their disclosure. Monsanto described propanil but taught that it was a non-selective herbicide and did not recognize its unique selective activity. Bayer similarly named propanil but failed to teach its unique activity. Testimony of Dougal McRae; Plaintiff's Exhibits 4, 12A, 20; Defendants' Exhibits 153, 341. *See also* Testimony of Walter Modance.

157. None of the remaining references cited by defendants as prior art describes propanil or herbicidal methods of using propanil. At best, these references alone or in combination teach compounds having some structural relationship to propanil, and some suggest herbicidal activity. For example, the CBCC publication reports that 633 compounds, included within the group are five proprionanilides, none of which is propanil, were "found to have marked effects on plant growth or behavior." The tests performed in the report do not deal with herbicidal activity, but rather relate to plant growth regulating activity which is not considered the same as herbicidal activity. Testimony of Dougal McRae; Testimony of Ruppert Palmer; Defendants' Exhibit 322. Nothing in the reports suggests or indicates propanil's unique herbicidal activity. Testimony of Dougal McRae; Defendants' Exhibit 322.

The Shaw article discusses structural configuration and herbicidal properties of a wide variety of compounds, the vast majority of which are carbamates and not anilides. The test results reported are in pre-emergence applica-

tions and not post-emergence applications. Four anilides of diverse structure are described, none of which is propanil, and the pre-emergence activity described in the article ranges from "slightly active" to "minor activity". Testimony of Dougal McRae; Testimony of Ruppert Palmer; Testimony of James Thomas; Defendants' Exhibits 321, 322.

Defendants' reliance on United States Patent 2,655,445 is similarly misplaced. This patent describes a variety of compounds as possessing herbicidal utility, none of which is an anilide. The patent does describe, however, a compound known as diuron, primarily a pre-emergence herbicide. Defendants' Exhibit 316. The compound is structurally different from propanil and was not used as a primary basis for the discovery of propanil's unique and unobvious herbicidal activity. Rather, diuron was "just one piece of data that [McRae and Wilson] were able to plug into all the knowledge that [the inventors'] already had on anilides that had been made and tested prior to this." Testimony of Dougal McRae. The Court finds that from the disclosures contained in the prior art cited by defendants, one of ordinary skill in the art would not have expected propanil to be active as a herbicide.

158. None of the prior art cited by defendants which has a reference date earlier than the invention date of the claims contained in the patent in suit describes 3,4-dichloroisobutyranilide or 3,4-dichloroalphamethylvarylanilide as a compound *per se*. Nor do any of such prior art suggest that 3,4-dichloroacetanilide, 4-chloropropionanilide, 3-chloropropionanilide, 3,4-dichloroalphamethylvarylanilide, or 3,4-DCiBa has selective, post-emergence herbicidal activity. Testimony of George Simmons; Plaintiff's Exhibits 9, 13.

159. Commercially acceptable herbicides must possess an array of critical and seemingly conflicting properties including high plant killing activity against a broad spectrum of weeds normally associated with a crop, no adverse

effect against the crop at weed killing rates of application, and a substantial margin of safety. Development of chemicals having such properties is highly expensive and time consuming. Absent the required combination of properties, a compound is without value commercially. Testimony of William Ambrogi; Testimony of Gordon Brandes; Testimony of Dougal McRae; Testimony of Ruppert Palmer; Testimony of George Simmons.

160. Although assertions have been advanced in this cause that propanil's activity is not unique when compared with the activity of structurally related compounds, the record demonstrates clearly that the contrary is true; propanil's selective, post-emergence herbicidal activity is unique. Testimony of Dougal McRae; Testimony of Rupert Palmer. This is established by the protracted and hard fought litigation in the instant cause, the litigation between Monsanto and Rohm and Haas and the Interference proceeding involving the rights to propanil. Plaintiff's Exhibits 8-14, 30. The uniqueness of propanil's herbicidal activity is evidenced also by defendants' imitation of Rohm and Haas' invention, rather than the employment by the defendants of a compound related structurally to propanil. Plaintiff's Exhibit 22.

Propanil has been an outstanding commercial success and has revolutionized rice culture. By contrast, there is no evidence that any of the alleged prior art compounds was ever exploited commercially or benefited the agricultural industry in any way. Testimony of Bill Fagala; Testimony of Dougal McRae; Testimony of Ruppert Palmer; Plaintiff's Exhibit 22. Rohm and Haas has tested over 200 chloroanilides in an effort to develop additional herbicides for use in the agricultural industry. Despite these extensive efforts, however, none of the chemicals tested has been found to possess the properties essential for the commercialization of a herbicide. Testimony of Dougal McRae. The agricultural industry immediately adopted propanil as the solution to a widespread and long-

standing weed control problem in rice. Plaintiff's Exhibit 22. Additionally, numerous publications extolling propanil's properties promptly appeared upon propanil's introduction into the market place. Testimony of Dougal McRae; Plaintiff's Exhibits 5 at 550, 872-84, 34-59. Similar publications describing the virtues of the structurally related compounds have not so appeared.

F. *Defendants' Propanil Activities*

161. The Crystal corporate defendants have engaged in the manufacture and sale of herbicidal propanil since 1967. From 1975 to 1981, defendants Crystal and Eller sold a total of 23,363,843 pounds of herbicidal propanil under brand names which include, but are not limited to the following: "Propanex", "Crystal Propanil", "Crystal Propanil-4", and "Supernox". Admission of Fact; Plaintiff's Exhibits 17, 18 (Deposition Testimony of Joe Eller), 72-82. Set forth below is a year to year breakdown of the amount of gallons of herbicidal propanil sold by Crystal and Eller:

Year	Amount (3 lb/4 lb Active)
1975	302,435 (3 lb.)
	58,351 (4 lb.)
1976	172,699 (3 lb.)
	206,439 (4 lb.)
1977	116,376 (3 lb.)
	206,204 (4 lb.)
1978	88,692 (3 lb.)
	448,229 (4 lb.)
1979	72,731 (3 lb.)
	420,114 (4 lb.)
1980	57,357 (3 lb.)
	433,718 (4 lb.)
1981	0 (3 lb.)
	185,189 (4 lb.)

Testimony of Joe Eller; Plaintiff's Exhibits 83, 108B, 112B, 142; Defendants' Exhibit 168.

162. ARGE is an agricultural supply cooperative. Since 1974, ARGE has obtained essentially all of the propanil herbicides that it distributes from Crystal. Testimony of Joe Eller; Testimony of Barry Jeffrey; Plaintiff's Exhibits 18 (Deposition Testimony of Pete Stacks), 62, 63, 67, 69, 154-156. From 1975 to 1981, ARGE sold a total of 13,196,371 pounds of herbicidal propanil. Set forth below is a year to year breakdown of the amounts of gallons of herbicidal propanil sold by ARGE.

Year	Amount (3 lb/4 lb Active)
1975	173,339 (3 lb.)
	39,390 (4 lb.)
1976	138,649 (3 lb.)
	46,529 (4 lb.)
1977	114,681 (3 lb.)
	85,160 (4 lb.)
1978	93,732 (3 lb.)
	157,869 (4 lb.)
1979	70,241 (3 lb.)
	157,336 (4 lb.)
1980	54,537 (3 lb.)
	204,888 (4 lb.)
1981	5,610 (3 lb.)
	255,369 (4 lb.)

Plaintiff's Exhibits 108A, 112A, 142, 184.

163. Each of the defendants has sold propanil in this country since June 11, 1974 for use in the United States without license or right from Rohm and Haas. The propanil so sold in every case was in the form of a herbicidal composition containing propanil as the active herbicidal agent together with an inert carrier or diluent. Admission of Fact; Plaintiff's Exhibits 21, 72, 74-82.

164. The herbicidal compositions sold by defendants were in containers carrying labels which described and recommended the use of propanil only as a selective, post-emergence herbicide to control weeds in rice crops. Plaintiff's Exhibits 17, 78-82. When the defendants sold their

products, they did so with the knowledge and expectation that the ultimate user, rice farmers or herbicide applicators, would use the propanil herbicide compositions in the United States and in the recommended manner found on the labels. Testimony of Joe Eller. Plaintiff's Exhibits 17, 21, 78-82.

Crystal promoted propanil as a selective, post-emergence herbicide to control weeds in rice through advertisements. Such advertisements promoted and encouraged the use of propanil in the same manner as described on Crystal's labels. Testimony of Joe Eller; Plaintiff's Exhibits 17, 72, 74-77.

165. The methods of using propanil recommended by each of the defendants since June 11, 1974, are to inhibit selectively the growth of undesirable plants, i.e., a variety of weeds of both the monocot and dicot class including barnyard grass in an area containing growing undesirable plants in an established crop. Since June 11, 1974, defendants have known that such methods were being substantially followed by the ultimate users of propanil. Admission of Fact; Plaintiff's Exhibits 21, 72, 74-82. *See also* Testimony of Joe Eller; Testimony of Dougal McRae; Plaintiff's Exhibit 1.

Propanil is applied to the area at a rate of application which inhibits growth of the weeds but which does not adversely affect the growth of the rice. The application rate is between 0.5 and 6 pounds of propanil per acre, the weeds controlled include annual plants in the tender state susceptible to propanil; and the rice is resistant to propanil. Testimony of Dougal McRae; Plaintiff's Exhibits 1, 21, 72, 74-82.

166. Each claim of the patent in suit provides for the use of propanil on "established" crops. Plaintiff's Exhibit 1. The labels of Rohm and Haas' propanil products, and the labels on the propanil products of each of the defendants herein, instruct that propanil is to be applied to

"treat grassy and weedy fields when a satisfactory stand of rice that tolerates flooding is established." Plaintiff's Exhibits 78-82. All of the defendants have admitted that their customers followed and/or intended to follow their labels in applying their propanil. Plaintiff's Exhibit 21.

167. The only methods for the use of propanil recommended by each of the defendants and used by those who acquire propanil are described literally by the language of claims 1-3, 6, and 8-12 of Rohm and Haas' patent. Plaintiff's Exhibits 17, 18 (Deposition Testimony of Joe Eller), 21, 22, 24, 78-82. Moreover, there is no evidence in the record to suggest or otherwise indicate that propanil has any use in the United States except as a selective, post-emergent herbicide as described in the methods claimed in the patent in suit. Refer to Findings 139-147.

G. *Defendants' Affirmative Defenses*

168. Prior to the issuance of the patent in suit it was common knowledge in the agricultural industry that both Rohm and Haas and Monsanto were attempting to secure a patent on propanil. Testimony of Joe Eller; Plaintiff's Exhibits 17, 18 (Deposition Testimony of Bobby Joe Pace; Deposition Testimony of James Blue; Deposition Testimony of Raymond Guidi), 30.

169. Since the issuance of the patent in suit, Rohm and Haas has vigorously enforced its patent rights through litigation, Testimony of Joe Eller; Plaintiff's Exhibits 22, 72, a fact which was common knowledge in the agricultural industry. Testimony of Joe Eller; Plaintiff's Exhibit 72. Rohm and Haas' pleadings as well as the court decisions themselves repeatedly stated that Rohm and Haas did not intend to license its Wilson patent to anyone. Plaintiff's Exhibit 22. *See also Rohm and Haas Co. v. Dawson Chemical Co.*, 191 U.S.P.Q. 691 (S.D. Tex. 1975), *rev'd*, 599 F.2d 685 (5th Cir. 1979), *aff'd*, 448 U.S. 176, 100 S.Ct. 2601, 65 L.Ed.2d 696 (1980).

170. Shortly after the commencement of this cause, defendants filed motions for summary judgment on the issue of patent misuse. From that point forward, Crystal as well as Helena, the other defendant in the case at the time, opposed Rohm and Haas' efforts to conduct discovery in the case. Testimony of Joe Eller. *See also* Defendants' Motion to Vacate Plaintiff's Notice of Taking Depositions and Alternative Motion to Stay Plaintiff's Taking of Depositions of Defendants Dawson Chemical Co., Crystal Chemical Co., and Crystal Manufacturing Corp.

171. After this Court granted summary judgment on the issue of patent misuse and dismissed Rohm and Haas' complaint, Rohm and Haas appealed. During the pendency of the appeal, Rohm and Haas' attempts to accelerate its appeal of this Court's Order were opposed also by defendants. Plaintiff's Exhibit 134. *See also* Testimony of Joe Eller.

172. On July 30, 1979, the United States Court of Appeals for the Fifth Circuit reversed this Court's Order granting summary judgment and remanded this case to this Court for further proceedings. Defendants filed then a writ of certiorari to the United States Supreme Court and certiorari was granted. On June 27, 1980, the Supreme Court entered its decision affirming the appellate court. *Dawson Chemical Co. v. Rohm and Haas Co.*, 448 U.S. 176, 179, 100 S.Ct. 2601, 2604, 65 L.Ed.2d 696 (1980).

173. On October 10, 1980, Rohm and Haas filed a motion to amend its complaint to join Eller as a defendant. Such motion was granted on November 20, 1980. Plaintiff's Exhibit 22. On November 12, 1980, Rohm and Haas filed a separate action against ARGE in the United States District Court for the Southern District of Texas. Plaintiff's Exhibit 22. That action was consolidated with the original cause pending before this Court on January 14, 1981.

174. In 1974 when Rohm and Hass commenced this action, Dawson Chemical Company, Crystal Manufacturing Corporation, and Crystal Chemical Company were named as defendants. In 1974 the outstanding stock of all of these defendants which were corporately interrelated, was owned primarily by Eller. Testimony of Joe Eller; Plaintiff's Exhibit 17. Eller was at that time and has remained to the present the President, a director and the moving force behind the Crystal defendants controlling their operations on a day to day basis. Testimony of Joe Eller; Plaintiff's Exhibits 17, 18 (Deposition Testimony of Joe Eller; Deposition Testimony of John Person; Deposition Testimony of William Parker; Deposition Testimony of Wilton Vardeman). Eller alone decided that these companies would make and sell propanil, and he personally sold and advertised propanil products together with recommendations for its use as a herbicide. Testimony of Joe Eller; Plaintiff's Exhibits 18 (Deposition Testimony of Joe Eller), 74, 75. These were recommendations which Rohm and Haas consistently asserted infringed the patent in suit. Eller personally dealt with distributors of propanil, and he has been identified as the most knowledgeable individual at Crystal respecting the manufacture, use, sale, advertising, research and suggested use of propanil and propanil products. Testimony of Joe Eller; Plaintiff's Exhibits 17, 18 (Deposition Testimony of Wilton Vardeman). Eller was fully aware of Rohm and Haas' position, and that if the Crystal corporate defendants were guilty of infringement of the patent in suit then so was Mr. Eller. Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller).

175. Crystal does not have a policy of destroying records, nor has any of Crystal's records been lost or destroyed that would be of assistance to the defendants in their defense of this case. Testimony of Joe Eller; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller; Deposition Testimony of Wilton Vardeman).

176. Since the commencement of this cause, Crystal has not made any substantial investment in either increasing the size of their physical plant or research facilities. Crystal's capital investment has essentially remained the same. Testimony of Joe Eller; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller). Rohm and Haas never engaged in conduct justifying an inference of abandonment of the patent in suit or inducing Eller to believe that he and his companies would go unmolested. Testimony of Joe Eller.

177. On August 11, 1967, Joe Eller, on behalf of both the Dawson Chemical Company and Crystal Sales Corporation (hereinafter Crystal Sales), entered into a product sales agreement whereby Dawson Chemical Company agreed to sell to Crystal Sales Corporation all of the propanil that Dawson Chemical Company could produce. The sale price of the propanil was set at $4.10 per gallon F.O.B. Seller's Plant, but was subject to adjustment based upon the cost of raw materials and the price modifications produced by quantity production. The contract provided further that should Dawson Chemical Company need capital to purchase raw materials, Crystal Sales should advance money to cover the cost of purchasing a three week supply of such raw materials. Plaintiff's Exhibit 63; Defendants' Exhibit 358. *See also* Testimony of Joe Eller.

178. On August 11, 1977 Joe Eller, on behalf of Crystal Sales, and the ARGE executed an agreement similar to the agreement entered into between Crystal Sales and Dawson Chemical Company on August 11, 1967. Testimony of Joe Eller; Testimony of Barry Jeffrey; Plaintiff's Exhibit 62. This agreement provided that for a period of ten years, Crystal Sales would sell propanil to the ARGE to meet all of ARGE's requirements for propanil. The agreement provided that the price to be paid by ARGE would be "mutually agreed upon from time to time. The mutually agreed upon price will be that

delivered price generally established to distributors by other producers and sellers of the identical formulations of [propanil] . . . ." Plaintiff's Exhibit 62. The contract provided further that ARGE would receive a rebate, the amount of which was based upon Crystal Sale's gross profits. For example, if Crystal Sales made a gross profit of 40%, ARGE would be entitled to a rebate of 8.25%. Moreover, ARGE was guaranteed a minimum rebate of 1%. Plaintiff's Exhibit 62. The agreement incorporated the following rebate schedule:

Seller's Gross Profit	Percent Rebate to Buyer
40%	8.25%
35%	8.00%
30%	7.75%
25%	7.50%
20%	7.00%
15%	6.00%
10%	4.50%
5%	3.00%

Plaintiff's Exhibit 62. In addition to the rebate, the contract provided further that Crystal Sales would pay ARGE "annually a commission of 5 cents per gallon on sales of Propanil sold in the U.S.A. to distributors other than the ARGE." Plaintiff's Exhibit 62. *See also* Defendants' Exhibits 178-181, 191-193. Finally, a provision of the agreement provided that Crystal Sales would indemnify ARGE against any damages ARGE sustained by reason of any infringement of a patent on propanil. Plaintiff's Exhibit 62.

179. Pursuant to a lease agreement executed August 11, 1967, Crystal Sales agreed to lease to Dawson Chemical Company for a period of ten years equipment designed for the manufacture of propanil. Testimony of Joe Eller; Plaintiff's Exhibit 155.

180. On August 15, 1967, Joe Eller on behalf of both Crystal Sales and Dawson Chemical Company executed an

amendment to the August 11 agreement. Such amendment provided in part that:

> As consideration for this lease, Lessee shall pay to Lessor, on or before the 15th day of each month during the term hereof, a sum equalling Fifteen Cents (15) per gallon on all propanex or other chemicals produced by said plant and which are sold during the preceding calendar month, until the aggregate thus paid in each calendar year equals the annual depreciation used that year by Lessor on said plant for Federal Income Tax purposes, plus an amount equal to the annual rental paid by Lessor to Lessee for lease of the plant site.

Plaintiff's Exhibit 156. This amendment was approved by George Blair on behalf of ARGE. Plaintiff's Exhibit 156.

181. On August 11, 1977 they executed an agreement which provided that ARGE would lease equipment designed for the manufacture of propanil to the Crystal Chemical Company for a period of ten years. The lease fee to be paid yearly was $10.00. Plaintiff's Exhibit 154.

182. Crystal Sales was established initially by ARGE to handle the sale of propanil from Dawson Chemical Company to ARGE. Testimony of Joe Eller; Plaintiff's Exhibit 67. Crystal Sales is a wholly owned subsidiary of ARGE. Testimony of Barry Jeffrey. Eller was president of Crystal Sales and Vardeman was secretary-treasurer. Eller and Vardeman were the only two corporate officers of Crystal Sales. Testimony of Joe Eller.

183. ARGE filed a brief as *amicus curiae* in support of Dawson's position in the Supreme Court in November, 1979. In this brief, ARGE acknowledged that it was faced with the threat of an infringement suit by Rohm and Haas. Nonetheless,, ARGE continued to distribute propanil containing herbicide products with recommenda-

tions known to be charged as an infringement. Plaintiff's Exhibit 25. ARGE knew that Rohm and Haas had refused to license the Wilson patent, Plaintiff's Exhibits 65, 133, and it had actual notice and participated in the pending litigation against its sole supplier. Testimony of Barry Jeffrey; Plaintiff's Exhibits 65, 67, 133.

184. From June 11, 1974 to the date ARGE was made a defendant in this suit, no witnesses instrumental to the ARGE defense of this suit have died or are missing. Nor have any documents necessary for ARGE's defense of this case been lost or destroyed. Testimony of Barry Jeffrey; Plaintiff's Exhibit 18 (Testimony of Barry Jeffrey; Testimony of Pete Stacks). Since ARGE is not a direct manufacturer of propanil products, but functions primarily as a distributor of propanil, Testimony of Barry Jeffrey; Plaintiff's Exhibits 17, 18 (Deposition Testimony of Barry Jeffrey, Deposition Testimony of Pete Stacks), ARGE did not make any capital investments in its facilities in order to expand production of propanil herbicides. Rohm and Haas' alleged delay in suing ARGE had no effect of any kind on any decision by ARGE concerning the sale or distribution of propanil. Testimony of Barry Jeffrey; Plaintiff's Exhibit 18 (Deposition Testimony of Barry Jeffrey).

H. *Antitrust Counterclaims*

1. *Relevant Market*

185. Rice farmers, distributors and agronomists recognize that propanil is a very important and effective herbicide in rice production. They recognize also, however, that propanil is only one of a number of other herbicides in the rice herbicide market, *e.g.*, Ronstar, Bolero, Machete, Prowl, Modown, Ordram and various phenoxies such as 2,4-D and 2,4,5-T. Testimony of Richard Clipson; Testimony of Bill Fagala; Testimony of Barry Jeffrey; Testimony of Ruppert Palmer; Plaintiff's Exhibits 17, 140; Defendants' Exhibits 76, 114, 124, 125, 242-244, 285, 295.

186. It is undisputed that propanil's essential function is to kill weeds, particularly barnyard grass, growing in rice. It decreases the cost of growing rice while increasing the yield per acre. Although the aforementioned herbicides perform the same function as propanil, there are many differences between propanil and these other herbicides which relate to the timing of application, cultural practices and the type of weeds which the various herbicides control. Most importantly, despite the presence of these other herbicides in the marketplace, see Plaintiff's Exhibit 140, there has never been nor is there today a herbicide as effective as propanil in weed control for which propanil is regularly applied in rice cultivation in the United States outside of California. Testimony of Bill Fagala; Testimony of Ruppert Palmer; Plaintiff's Exhibits 11, 39, 47; Defendants' Exhibit 295. While several new herbicides have been introduced in recent years, propanil remains the herbicide of choice for selective weed control, primarily barnyard grass, in the post-emergence pre-flood stage of rice cultivation. Testimony of Bill Fagala; Testimony of Ruppert Palmer; Plaintiff's Exhibits 39, 47; Defendants' Exhibit 295. *See also* Testimony of Joe Eller.

187. Because of the unique herbicidal properties possessed by propanil, the price of propanil would have to be raised considerably before the rice farmers or users would switch to other rice herbicides or alternative methods of weed control. One of the witnesses who testified during the trial stated that rice farmers would continue to use propanil despite an increase in the product's price until the cost of propanil exceeded the rice farmers' return. Testimony of Richard Clipson; Testimony of Bill Fagala; Testimony of Barry Jeffrey.

188. The market in the United States for the herbicidal propanil sold by the parties to this litigation is the south central states composed of the States of Texas, Arkansas, Louisiana, Mississippi, and Tennessee. Testi-

mony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibit 51; Defendants' Exhibits 147, 312.

2. *Bayer-Rohm and Haas Agreements*

189. In 1958, Bayer filed a patent application in Germany which disclosed propanil. During the same year, Rohm and Haas filed its patent application on propanil in the United States. Plaintiff's Exhibit 4. After these initial filings, Bayer and Rohm and Haas each filed related applications in many countries throughout the world. A conflict of patent rights existed in some of these countries. Testimony of George Simmons; Defendants' Exhibits 65-73; Defendants' Exhibits 199, 201, 203-205, 207, 215, 216.

190. During the early prosecution of Rohm and Haas' patent application in the United States, an interference was declared among patent applications on propanil filed by Rohm and Haas, Monsanto and Bayer. Plaintiff's Exhibits 2, 4, 12A-12D. The interference led ultimately to an award of priority to Rohm and Haas with the necessary holding that under the patent laws of the United States neither Monsanto nor Bayer was the first inventor. Each of the foreign countries where Rohm and Haas and Bayer had pending patent applications, however, had different rules governing patent rights and conflicts, and no international mechanism existed to resolve the foreign patent disputes. The United States interference could not resolve the foreign conflicts. Rohm and Haas and Bayer were thus faced with *bona fide* priority conflicts in foreign countries with resultant uncertainty. To resolve these disputes, thereby avoiding the costs and delay of multiple patent proceedings around the world, Rohm and Haas entered into settlement agreements with Bayer pertaining solely to foreign patents. Testimony of George Simmons; Defendants' Exhibits 34, 65-73. *See also* Defendants' Exhibit 308.

191. In 1967, Rohm and Haas conducted independently a thorough study of the validity, scope and enforceability of its patents in countries where a conflict with Bayer seemed probable. A separate business evaluation was made in countries where Rohm and Haas believed its patents were strong. This evaluation assessed Rohm and Haas' commercial position, marketing steps, distribution capabilities and other important business considerations. Based on this assessment, Rohm and Haas entered into an agreement with Bayer in 1967 which settled conflicts in many countries and maximized Rohm and Haas' profits by employing Bayer's superior overseas distribution and sales networks where Rohm and Haas' marketing organization was inexperienced or inadequate. Testimony of George Simmons; Defendants' Exhibit 69. *See also* Defendants' Exhibit 70.

192. From 1976 to 1980, Rohm and Haas or its foreign subsidiary commenced eight infringement actions in Costa Rica. Seven of these suits have been settled. In 1976, Rohm and Haas settled one of the actions pending in Costa Rica against a subsidiary of Bayer. As part of this settlement, Bayer dismissed an action against Rohm and Haas in the United States also involving Rohm and Haas' Costa Rican patent and Rohm and Haas granted non-exclusive licenses under its Costa Rican Patent No. 2047. Testimony of George Simmons; Defendants' Exhibits 67, 68, 72, 73.

193. The Rohm and Haas-Bayer agreements, essentially non-exclusive foreign patent licenses and distributorships, were entered into for the purpose of resolving substantial and *bona fide* foreign patent conflicts and constituted a legitimate exercise of foreign patent rights in an effort to settle an international patent controversy and to commercially exploit valid foreign patents. The agreements pertained only to foreign patents. In entering these agreements, the Court finds that Rohm and Haas did not intend or agree to divide up the world herbicidal

propanil market. Testimony of George Simmons; Plaintiff's Exhibit 36; Defendants' Exhibits 65-70, 73.

194. Defendants' worldwide monopoly allegations consisted of evidence that the Government of Costa Rica made a single seizure of a quantity of propanil owned by Crystal Chemical De Costa Rica, a Costa Rican corporation owned by a company called Crystal Chemical Inter-America. Crystal Chemical Company had only a 50% interest in Crystal Chemical Inter-America and sold this stock in 1977. Crystal Chemical Company made all of its sales in the United States and title to the propanil product exported by Crystal Chemical Company changed hands in Houston. Testimony of Joe Eller; Plaintiff's Exhibit 157; Defendants' Exhibit 36.

195. Defendants' worldwide monopoly allegations depend upon agreements entered into between Bayer and Rohm and Haas in 1961, 1967 and 1976. The agreements are effective only for the life of the patents mentioned therein. The only Rohm and Haas foreign patents mentioned in the Bayer agreements which had neither expired nor lapsed (and were neither abandoned nor invalidated) were as follows: Brazil, No. 68403; Costa Rica, No. 2047—expiration date June 11, 1991; France, No. 1220218—expiration date February 6, 1979; Iran, No. 4663—expiration date February 3, 1987; and Iraq, No. 101—expiration date February 3, 1987. Plaintiff's Exhibit 31; Defendants' Exhibits 65-70, 73.

3. *Rohm and Haas' Marketing and Pricing Practices*

196. Other than 1961 when propanil was first introduced as a herbicide for use in rice, the propanil market has always been highly competitive. Testimony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller, Deposition Testimony of Robert Kelly, Deposition Testimony of Edward Tefertiller, Deposition Testimony of Wilton Vardeman); Defendants' Exhibits 107, 108, 127, 130, 132, 143, 145-47,

149, 15, 167, 258, 261, 263, 264, 267, 270, 281, 284, 285, 301-04; *see also* Testimony of Henry Steele. Propanil prices varied on an order by order basis in response to competition. Testimony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibit 141 (Deposition Testimony of Carl Stull); Defendants' Exhibits 79, 94, 99, 104, 109, 110. The price would fluctuate rapidly over the course of a season and, more often than not, would deteriorate as the season progressed. Testimony of William Ambrogi; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller), 151; Defendants' Exhibits 100, 105, 107, 110. During the season, Rohm and Haas, Dawson and other manufacturers of propanil for use as a herbicide in rice would make price adjustments. Testimony of William Ambrogi; Testimony of Richard Clipson; Testimony of Joe Eller; Plaintiff's Exhibits 17, 18 (Deposition Testimony of C.P. Bomar; Deposition Testimony of Jerome Franklin; Deposition Testimony of Gerald Manley; Deposition Testimony of Carl Stull), 83, 141; Defendants' Exhibits 100, 101, 105, 145, 149, 258, 261, 263. Accordingly, the price of propanil was determined by competition in the marketplace, and Rohm and Haas had no effective power to control and did not control the price of propanil. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of Henry Steele. Plaintiff's Exhibits 17, 18 (Deposition Testimony of Charles Blue, Deposition Testimony of Gerald Manley, Deposition Testimony of Edward Tefertiller; Deposition Testimony of Wilton Vardeman), 141 (Deposition Testimony of Carl Stull); Defendants' Exhibits 94, 99, 100, 101, 104, 105, 127.

197. Aside from competition, when it was possible Rohm and Haas utilized several factors in setting the price for its propanil products. Such factors included the previous price of propanil, overhead costs, and a level of gross profit required to provide a satisfactory return on Rohm and Haas' investment and development costs. Testimony of William Ambrogi; Testimony of Carl Stull.

198. Rohm and Haas, Crystal and other manufacturers of herbicidal propanil relied on information received from customers and salesmen in the field concerning their competitors' prices. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of Henry Steel; Plaintiff's Exhibits 18 (Deposition Testimony of Charles Blue, Deposition Testimony of C.P. Bomar, Deposition Testimony of Robert Kelly, Deposition Testimony of Gerald Manley); 100, 141 (Deposition Testimony of Carl Stull); Defendants' Exhibits 127, 130-33, 137, 143, 149, 150, 258, 263, 264, 267, 276, 281, 284-88, 291, 301, 304.

199. Market intelligence indicated to Rohm and Haas that Dawson and other competitors were undercutting its prices for propanil and eroding its sales volume. This information was consistent with defendants' history of price cutting, with market realities and with sound economic theory. Testimony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibits 17, 100, 150, 151; Defendants' Exhibits 127, 263, 264. *See also* Testimony of Henry Steel. Rohm and Haas was compelled to rely on this market information and was justified in doing so. Testimony of William Ambrogi; Testimony of Henry Steele.

200. At one time Rohm and Haas announced its price for propanil well before the growing season and well in advance of demand for the product. Crystal, Vertac and others promptly undercut this price, thereby depressing the price even before sales began. The price also deteriorated as the season progressed. Price deterioration placed Stam distributors at a competitive disadvantage and prevented Rohm and Haas from positioning propanil with its distributors early enough to curtail distribution problems that occurred during periods of high demand. Consequently, Rohm and Haas revised its price announcement policy and attempted to anounce its price prior to the season but closer to the propanil use period. This practice enabled Rohm and Haas to maintain sales volume

and minimized price deterioration and distribution dysfunctions. Testimony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller); Defendants' Exhibits 79, 97, 99, 104, 312.

201. A review of the record in this case reveals that the price for propanil has fluctuated since 1974 The 1975 oil embargo substantially increased prices and profits in propanil. Brokers then entered the market and purchased unusually large amounts of propanil, speculating that prices for the 1976 season would be even higher than in 1975. This led to sizable inventories in early 1976 thereby causing an oversupply in the marketplace. Rohm and Haas did not forecast this oversupply in 1976. When prices began to decline, the brokers dumped their product on the market causing the price of propanil to drop in 1976. The effects of the oversupply in 1976 continued into the 1977 season and the price of propanil decreased. Rohm and Haas had no control over the 1976 speculation, slack demand and resultant price decline. Thereafter, prices steadily increased in part as a result of the rising cost of raw materials and other factors affecting the price of propanil such as weather conditions in rice growing areas and the price of rice. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of Henry Steele. *See also* Defendants' Exhibits 79, 145-47.

202. Rohm and Haas has utilized several different marketing practices, *i.e.*, inventory protection, memo billing, extended payment terms and warehouse allowances, in selling propanil. Such marketing practices were common in the agricultural chemical industry, and Dawson and other competitors of Rohm and Haas utilized the same or the functional equivalent of such practices. Testimony of William Ambrogi; Testimony of Richard Clipson; Testimony of Joe Eller; Plaintiff's Exhibits 17, 18 (Deposition Testimony of C.P. Bomar, Deposition Testimony of Jerome Franklin, Deposition Testimony of Gerald Manley), 83, 92, 100; Defendants' Exhibits 79, 81-83,

85-90, 95, 102-104, 112, 144-46, 148, 178-181, 185, 192, 193, 247.

203. Rohm and Haas always sought to maximize its profits on the sale of propanil while maintaining its sales levels. There is insufficient credible evidence to support defendants' assertions that Rohm and Haas sacrificed revenues or illegally sold propanil below average variable or marginal cost for the purpose of driving competition from the market or that Rohm and Haas otherwise possessed predatory intentions. Testimony of William Ambrogi; Testimony of Joe Eller; Plaintiff's Exhibit 141 (Deposition Testimony of Carl Stull). *See also* Testimony of Henry Steele. Defendants' assertions that if Rohm and Haas would have raised the price of its propanil products, the defendants would have followed is unsupported by the credible evidence and, indeed, contrary to the highly competitive industry of the herbicide propanil market. The evidence in the record indicates that when Rohm and Haas set a price for its propanil, its competitors would undercut it. Rohm and Haas acted in good faith on the reasonable assumption, based on sound economic principles, that if it raised the price of its propanil, it would have lost a substantial share of the market. Consequently, Rohm and Haas was forced to meet rather than beat the competition's lower prices. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of Henry Steele; Plaintiff's Exhibit 100.

204. Other than the existence of the patent in suit, there were very few barriers during the relevant period preventing an outside party from entering the herbicidal propanil market. The market was, however, fraught with excess capacity. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of Larry Jones; Plaintiff's Exhibit 18 (Deposition Testimony of Raymond Guidi).

205. Rohm and Haas employs a distribution system composed of independent distributors. Rohm and Haas' distributors are asked to adequately service dealers and

growers, answer complaints and perform other similar functions. Rohm and Haas never informed a distributor that it would be cancelled if it dealt in competing products and never cancelled a distributor for this reason. Rohm and Haas' distributors have consistently dealt in competitive propanil products, and on occasion have competed with other Rohm and Haas' distributors for the sale of Rohm and Haas propanil products. Testimony of William Ambrogi; Testimony of George Simmons; Plaintiff's Exhibit 18 (Deposition Testimony of Joe Eller; Deposition Testimony of Edward Tefertiller; Deposition Testimony of Jerome Franklin); 141 (Deposition Testimony of Carl Stull); Defendants' Exhibits 38, 79, 80, 91, 126, 129, 142, 257, 262, 270.

206. Rohm and Haas has never required its dealers or distributors to deal exclusively in propanil. Rohm and Haas never threatened one of its distributors or dealers with termination if the distributor or dealer purchased propanil from a competitor, nor has any of its distributors or dealers ever been terminated for this reason. Testimony of William Ambrogi. *See also* Testimony of George Simmons; Defendants' Exhibit 38, 79, 80, 91, 92, 130, 262, 288. Consequently, the Court finds that Rohm and Haas did not engage in exclusive dealing.

207. Rohm and Haas lawfully and in good faith informed its customers and salesmen of its belief in the strength of its patent, its no-license policy, *i.e.*, Rohm and Haas' policy to refuse licenses, except by operation of law where purchasers of propanil from Rohm and Haas receive an implied license to use the patented method and its unwaivering intent to enforce the patent against infringers. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of George Simmons; Defendants' Exhibit 38.

208. Since the early 1960's there has been some confusion in the agricultural chemical industry concerning who would obtain what patents and when. This confusion

persisted after the instant case was filed, and all of the parties have tried on occasion to emphasize and explain their respective positions in public statements, letters and advertisements. Testimony of Joe Eller; Plaintiff's Exhibits 18 (Deposition Testimony of James Blue; Deposition Testimony of Joe Eller; Deposition Testimony of Raymond Guidi; Deposition Testimony of Bobby Joe Pace), 30, 72, 73; Defendants' Exhibits 111, 139, 259. *See also* Testimony of William Ambrogi.

209. After the Supreme Court's decision on the preliminary issue of patent misuse, Rohm and Haas discovered that representatives of Crystal and Vertac were falsely informing distributors that Rohm and Haas was going to grant licenses to manufacture and sell propanil as a selective, post-emergence herbicide. To counteract these assertions, on September 18, 1980, Rohm and Haas in good faith sent letters to propanil distributors reaffirming its position that no licenses would be granted and that its patent would be enforced. Testimony of William Ambrogi; Testimony of Joe Eller; Testimony of George Simmons; Plaintiff's Exhibits 18 (Deposition Testimony of Joe Eller), 38, 65, 73.

210. The credible evidence clearly reveals that the patent in suit was procured by Rohm and Haas in good faith and not through fraudulent or inequitable conduct. Similarly, the commencement and prosecution of this cause has been based upon good faith and Rohm and Haas' reasonable belief that defendants infringed a valid and enforceable patent. Rohm and Haas acted no differently from any other patentee seeking to protect presumptively valid patent rights.

211. Rohm and Haas lawfully and in good faith commenced litigation against Eller and ARGE after learning of the Crystal corporate defendants' tenuous financial condition, ARGE's business relationship with the Crystal corporate defendants, and the interrelationship among the

Crystal corporate defendants. Testimony of George Simmons.

212. Crystal's share of the propanil market increased from 16.8% in 1975 to 23.8% in 1980; Crystal's share of the market decreased to 13.8% in 1981. Its sales volume increased also from $3,987,000 in 1975 to $8,666,000 in 1980. Its sales volume did decrease in 1981 however to $3,834,000. Testimony of Joe Eller; Plaintiff's Exhibits 17, 83, 112B, 152. Crystal always made a profit on propanil, and propanil accounted for approximately 25-31% of Crystal's total sales. Crystal not only could and did compete with Rohm and Haas but also increased its market share and sales volume. Testimony of Joe Eller; Plaintiff's Exhibits 17, 83, 112B, 152. Rohm and Haas' marketing and pricing practices had no adverse effect on Crystal's propanil business, and there is no causal connection between any of Rohm and Haas' activities and Crystal's bankruptcy. Testimony of Joe Eller; Testimony of Henry Steele.

213. Crystal was experiencing serious financial difficulty long before September 18, 1980 when Rohm and Haas sent a letter to various agricultural chemical distributors informing them of Rohm and Haas' intent not to grant licenses under its patent. Crystal entered into a Creditor's Arrangement only 15 days after the Rohm and Haas letter of September 18. In addition, the letter was sent to only five of Crystal's ninteen distributors. This letter did not prevent Crystal from obtaining distributors and did not force Crystal into bankruptcy. Testimony of Joe Eller; Plaintiff's Exhibits 18, 112B, 132, 149, 153. *See also* Testimony of Henry Steele; Plaintiff's Exhibit 132. There is a dearth of evidence that Crystal's demise was a result of anything other than the substantial expenditures made by Crystal to dispose of chemical pollutants, unfortunate business decisions by its management, and substantial and chronic undercapitalization. Testimony of Joe Eller; Testimony of Henry Steele;

Plaintiff's Exhibits 132, 149, 152; Defendants' Exhibit 353.

214. Based upon the credible evidence in the record before the Court and in light of the Court's Findings of Fact set forth above the Court is of the opinion that Rohm and Haas' pricing and marketing practices were predominantly motivated by legitimate business reasons. Such activities were conducted in good faith in response to the competitive activities of the defendants and others in the herbicidal propanil market and do not constitute anything more than lawful competition. Accordingly, the Court is unable to find that Rohm and Haas' marketing and pricing practices unreasonably restrained trade during the relevant period or were conducted by Rohm and Haas for purposes of monopolizing the herbicide propanil market. The Court finds that the substantial share of the herbicide propanil market [18] that Rohm and Haas

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[18] Although defendants assert that Rohm and Haas possesses a 100% monopoly of the herbicidal propanil market, there is evidence in the record to indicate that the contrary is true. Shortly after Crystal filed for bankruptcy in September 1981, a company by the name of Cumberland Chemical Company (hereinafter Cumberland) was formed. The company began operations at the same physical plant and offices once occupied by Crystal and retained also the same phone number. Eller is a minority stockholder and Vice President of Cumberland. Testimony of Joe Eller.

Subsequently, Eller, on behalf of Cumberland, purchased some of the equipment that Crystal had used to manufacture herbicidal propanil. The leases between ARGE and Crystal covering additional equipment used for manufacturing herbicidal propanil were assigned to Cumberland. Testimony of Joe Eller; Testimony of Richard Clipson. Such equipment was acquired by Cumberland to enable it to engage in the manufacture and sale of herbicidal propanil. Testimony of Joe Eller. As a result of Cumberland's assumption of all of Crystal's contractual arrangements with ARGE, specifically, the contract executed between Crystal and ARGE on July 11, 1977, *see* Plaintiff's Exhibit 62, Cumberland became bound to supply herbicidal propanil to ARGE. Testimony of Joe Eller. Accordingly, the Court finds defendants' argument that Rohm and Haas possesses a monopoly of the herbicidal propanil market to be meritless.

possesses is the inevitable result of Rohm and Haas' business acumen and superior skill and the direct result of the lawful assertion of the rights accorded Rohm and Haas through its patent.

215. Propanil is normally applied to rice crops for weed control during the months of April to June. Consequently, the typical period for the majority of sales of propanil occurs late in the preceding year and continues until approximately mid-June of the following year. Testimony of William Ambrogi. *See also* Testimony of Larry Jones. By the time of the patent in suit which was issued on June 11, 1974, the major sales of propanil for the 1974 rice season had been completed. Accordingly, Rohm and Haas' legitimate right to exclusive sales of propanil products for use in connection with rice primarily involves the 1975 through 1981 rice growing seasons.

216. From June 11, 1974 to the present, Rohm and Haas has had access to a sufficient supply of raw materials and has had the ability to expand its manufacturing facilities so as to supply the entire United States demand for propanil, even assuming Rohm and Haas was the only manufacturer of propanil. Testimony of William Ambrogi; Testimony of Larry Jones; Plaintiff's Exhibit 141 (Deposition Testimony of Carl Stull). Similarly, Rohm and Haas has had an adequate distribution network to enable it to sell and service the complete United States market for propanil. Testimony of William Ambrogi; Plaintiff's Exhibit 141 (Deposition Testimony of Cary Stull).

217. As there is no substantial difference among propanil brands, Testimony of Ford Baldwin; Testimony of Joe Eller; Testimony of Bill Fagala, customers of propanil products who have purchased defendants' propanil from 1974 to the present would have switched to STAM if defendants' products become unavailable subsequent to June 11, 1974. Testimony of Ford Baldwin; Testimony of Bill Fagala.

218. There has been and is today no herbicide as effective as propanil for weed control uses for which propanil is regularly applied in United States rice cultivation outside of California. Testimony of Bill Fagala; Testimony of Ruppert Palmer; Plaintiff's Exhibits 39, 47; Defendants' Exhibit 295. While several new herbicides have been introduced in recent years, propanil remains the herbicide of choice for selective weed control (primarily barnyard grass) in the post-emergence pre-flood stage of rice cultivation. Testimony of Bill Fagala; Testimony of Ruppert Palmer; Plaintiff's Exhibits 39, 47; Defendant's Exhibit 295. *See also* Testimony of Joe Eller.

219. Based upon the historic gross profit margins and the stipulated volume of propanil that defendants Crystal, Eller and ARGE sold between 1975 to 1981, Rohm and Hass lost profits in the amount of $2,731,917 as a result of ARGE's infringement of the patent in suit, and $4,023,114 as a result of the Crystal and Eller's infringement on the patent in suit. Testimony of William Ambrogi; Plaintiff's Exhibits 108A, 108B, 142.

220. In a record replete with inconsistencies permitting contrary inferences, the Court has reviewed carefully all of the evidence in the case and concludes that the more credible evidence supports the above Findings of Fact.

III. *CONCLUSIONS OF LAW*

A. *Jurisdiction and Venue*

1. The Court has jurisdiction over the parties and the subject matter of this suit pursuant to 28 U.S.C. § 1338 (a) (1976). Venue is properly laid in this District, 28 U.S.C. § 1400(b) (1980). The defendants have regular and established places of business in this District, and some of the acts charged as infringing the patent in suit have occurred within this District.

2. Plaintiff Rohm and Haas is the owner through assignment of the patent in suit, often denominated as the

Wilson patent and has standing to bring and maintain this action. Refer to Finding 6. Harold F. Wilson and Dougal H. McRae are co-inventors of the original patent. Refer to Finding 6.

B. *Validity of the Patent in Suit*

3. In order to be patentable, an invention must satisfy the standards expressed in the United States Constitution and the conditions set forth in section 101, 102, and 103 of Patent Act, 35 U.S.C. §§ 101-103(1976). As set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 3-4, 86 S.Ct. 684, 686-87, 15 L.Ed.2d 545 (1966), it is required that the invention be new or novel, useful, and that the differences between the prior art and the invention be such as to render the invention unobvious to persons skilled in the art at the time the invention was made. These requirements must be considered prior to the Rohm and Haas' claim for infringement. In the case *sub judice*, however, utility is not contested, although the evidence in the record overwhelmingly establishes that this requirement is satisfied by the invention claimed by Rohm and Haas. Refer to Finding 41-46.

4. The Court's analysis of the facts of this case in light of the relevant law begins necessarily with the presumption, which is rebuttable, that patents are presumed valid. 35 U.S.C. § 282 (Supp. 1982). *See Baumstimler v. Rankin*, 677 F.2d 1061, 1066 (5th Cir. 1982); *Reed Tool Co. v. Dresser Industries, Inc.*, 672 F.2d 523, 526 (5th Cir. 1982); *Arbrook, Inc. v. American Hospital Supply Corp.*, 645 F.2d 273, 276 n.1 (5th Cir. 1981); *Ludlow Corp. v. Textile Rubber & Chemical Co.*, 636 F.2d 1057, 1059 (5th Cir. 1981); *Continental Oil Co. v. Cole*, 634 F.2d 188, 195 (5th Cir.), *cert. denied*, 454 U.S. 830, 102 S.Ct. 124, 70 L.Ed.2d 106 (1981); *John Zink Co. v. National Airoil Burner Co.*, 613 F.2d 547, 551 (5th Cir. 1980); *Harrington Mfg. Co. v. White*, 475 F.2d 788, 793-94 (5th Cir.), *cert. denied*, 414 U.S. 1040, 94 S.Ct.

542, 38 L.Ed.2d 331 (1973); *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 428 F.2d 555, 560 (5th Cir.), *cert. denied*, 400 U.S. 956, 91 S.Ct. 353, 27 L.Ed.2d 264 (1970). Hence, the onus of establishing invalidity of a patent rests on the party asserting invalidity. 35 U.S.C. § 282 (Supp. 1982); *see Baumstimler v. Rankin, supra*, at 1066. The burden of proof in this regard is more than a preponderance of the evidence and has been described as a heavy one. *Ludlow Corp. v. Textile Rubber & Chemical Co., Inc., supra*, at 1059 and n.2. *See also Baumstimler v. Rankin, supra* at 1066; *White v. Mar-Bel, Inc.*, 509 F.2d 287, 291 (5th Cir. 1975). "However the burden is characterized, it is clear that significantly more than a mere preponderance of the evidence is required and that doubts are resolved against the party who attacks the patent." *Ludlow Corp. v. Textile Rubber & Chemical Co., Inc., supra*, at 1059 (footnote omitted).

The presumption of validity which is normally accorded the patent is strengthened, as it is in the instant cause, "where the [patent was] given extended scrutiny by the Patent and Trademark Office and its tribunals on matters within their specific field of expertise, including the interpretation and pertinency of the prior art." *Rohm and Haas Co. v. Owens-Corning Fiberglass Corp.*, 196 U.S.P.Q. 726, 740 (N.D. Ala. 1977). *See also Hildreth v. Mastoras*, 257 U.S. 27, 32, 42 S.Ct. 20, 22, 66 L.Ed. 112 (1921); *United States Pipe & Foundry Co. v. Woodward Iron Co.*, 327 F.2d 242, 245 (4th Cir. 1964); *Southern States Equip. Corp. v. USCO Power Equip. Corp.*, 209 F.2d 111, 118 (5th Cir. 1953); *National Tractor Pullers Ass'n, Inc. v. Watkins*, 205 U.S.P.Q. 892, 910 (N.D. Ill. 1980); *United States Pipe & Foundry Co. v. James B. Clow & Sons, Inc.*, 205 F.Supp. 140, 152 (N.D. Ala. 1962), *aff'd in part, rev'd on other grounds*, 313 F.2d 46 (5th Cir. 1963).

4. In the instant cause, the presumption of validity is entitled to great weight. The patent as issued in 1974 has

as its genesis an application filed in 1958. Besides having been extensively reviewed and scrutinized by several patent examiners during the patent's prosecution, certain claims in the Wilson patent were the subject of a lengthy and heated interference. Refer to Findings 84-98. In addition, the patent examiner in charge of the renewed prosecution was recognized in the Patent Office in 1973 as a herbicide expert who was very familiar with the prior art in this particular area. Refer to Finding 110. Most importantly, all of the prior art cited or relied upon by the defendants in this cause was cited by or against Rohm and Haas during the prosecution of its patent; such prior art was considered and rejected by the Patent Office. *See, e.g.*, Findings 116 n.12, 148.

5. Even though a patent meets the statutory tests of invention defined in §§ 101, 102 and 103 of the 1952 Patent Act, it must also comply with the disclosure and claiming provisions of 35 U.S.C. § 112 (Supp. 1982). Section 112 provides in pertinent part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

In determining whether there has been compliance with § 112, due consideration must be given to whether the subject matter in a particular case is of a nature that lends itself to precise definition, and allowance must be made for inherent imprecision in language as a means of such definition. *Arnold Pipe Rentals Co. v. Engineering Enterprises, Inc.*, 350 F.2d 885, 892-893 (5th Cir. 1965); *Wayne v. Humble Oil & Refining Co.*, 175 F.2d 230, 233 (5th Cir. 1949); *Ansul Co. v. Uniroyal, Inc.*, 301 F.Supp. 273, 279-80 (S.D.N.Y. 1969), *modified*, 448 F.2d 872 (2d

Cir.), *cert. denied*, 404 U.S. 1018, 92 S.Ct. 680, 30 L.Ed.2d 666 (1972). The certainty which the law requires in patents "is met by disclosures that are reasonably clear to one skilled in the art", *Philip v. Mayer, Rothkopf Indus., Inc.*, 635 F.2d 1056, 1063 (2d Cir. 1980); *see also Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270, 37 S.Ct. 82, 86, 61 L.Ed. 286 (1916); *Loom Co. v. Higgins*, 105 U.S. 580, 585-86, 26 L.Ed. 1177 (1882), "even though some experimentation may be necessary . . . ." *Philip v. Mayer, Rothkopf Indus., Inc., supra*, at 1063; *see also Minerals Separation, Ltd. v. Hyde, supra*, 242 U.S. at 270-71, 37 S.Ct. at 86.

6. The issuance of a patent creates a presumption that the claims contained therein satisfy the definiteness requirement of 35 U.S.C. § 112 (Supp. 1982). *Western States Mach. Co. Ltd. v. S.S. Hepworth Co.*, 147 F.2d 345, 350 (2d Cir.), *cert. denied*, 325 U.S. 873, 65 S.Ct. 1414, 89 L.Ed. 1991 (1945); *Plastering Dev. Center, Inc. v. Perma Glas-Mesh Corp.*, 371 F.Supp. 939, 947 (N.D. Ohio 1973); *Abington Textile Mach. Works v. Carding Specialists, Ltd.*, 249 F.Supp. 823, 839 (D.D.C. 1965); *Holstensson v. Webcor, Inc.*, 150 F.Supp. 441, 447 (N.D. Ill. 1957).

7. One skilled in the art armed with the teachings of the 1958 application can, by routine screening tests well known by 1958, apply its techniques and determine precise concentrations, application rates, plants and the like most suitable for carrying out the claimed methods. Refer to Findings 139-147. The necessity for conducting experimentation or preliminary tests to determine the successful application of an invention, however, will not invalidate a patent where, as here, one skilled in the art can determine and select the necessary experiments or tests without unreasonable difficulty. *Minerals Separation v. Hyde, supra*, 242 U.S. at 263, 270-71, 37 S.Ct. at 83, 86; *Gray Co., Inc. v. Spee-Flo Mfg. Corp.*, 361 F.2d 489, 493 (5th Cir. 1966); *Jones Knitting Corp. v. Morgan*, 361

F.2d 451, 454 (3d Cir. 1966); *Locklin v. Switzer Bros., Inc.*, 299 F.2d 160, 166 (9th Cir. 1961), *cert. denied*, 369 U.S. 861, 82 S.Ct. 950, 8 L.Ed.2d 18 (1962); *Binks Mfg. Co. v. Ransburg Electro-Coating Corp.*, 281 F.2d 252, 257 (7th Cir. 1960); *Georgia-Pacific Corp. v. United States Plywood Corp.*, 258 F.2d 124, 136 (2d Cir.), *cert. denied*, 358 U.S. 884, 79 S.Ct. 124, 3 L.Ed.2d 112 (1958).

The use of functional language to claim an invention is specifically approved by statute, the patent office and the courts, particularly where, as here, it is obviously impossible to enumerate all possible combinations of weeds, crops and application rates of propanil which will produce the recited useful selective, post-emergence activity. Refer to Findings 139-147. *Minerals Separation v. Hyde, supra*, 242 U.S. at 271, 37 S.Ct. at 86; *Georgia-Pacific Corp. v. United States Plywood Corp., supra*, at 136; *Proctor & Gamble Mfg. Co. v. Refining, Inc.*, 135 F.2d 900, 906 (4th Cir. 1943).

8. The invention of Drs. Wilson and McRae as embodied in the 1958 application was a generic invention that propanil, of all of the millions of chemical compounds available, possessed useful selective, post-emergence herbicidal activity. *See e.g.*, Finding 46. Once this invention was conceived, Refer to Findings 14, 15, the inventors embarked on a series of field tests in 1957 which established selectivity in post-emergence application with a number of crops including tomatoes, potatoes, strawberries, turf grasses, clover, orchards and corn. Refer to Findings 18, 19. At the close of the field test season, additional tests in the greenhouse prior to the 1958 filing date substantiated the selective, post-emergence activity of propanil on wheat which is a cereal grain. Refer to Finding 21. Subsequently, propanil was sent by Rohm and Haas to other scientists for routine testing on additional crops and weeds leading to the observation of selectivity in various crops including rice. Under the circumstances, Rohm and Haas was not required to limit its

1958 application to the precise crops where selectivity had at that time been demonstrated. Such a requirement would discourage an inventor from disclosing and teaching his discovery for the public's benefit until all screening had been completed, in contravention to the guiding principles underlying § 112. *Harrington Mfg. Co. v. White, supra,* at 801; *Binks Mfg. Co. v. Ransburg Electro-Coating Corp., supra,* at 256-57; *Yosemite Chemical, Co. v. United States,* 175 Ct.Cl. 623, 360 F.2d 948, 951-52 (1966); *Merck & Co. v. Chase Chemical Co.,* 273 F.Supp. 68, 75 (D.N.J. 1967).

9. Defendants assert that the patent in suit is invalid under 35 U.S.C. § 102(e) because the invention was described in a patent granted on an application filed in the United States by another inventor before the invention by Wilson and McRae. Specifically, it is asserted that the Huffman Patent, U.S. Patent No. 3,382,280, the patent referred to in the Court's Findings of Fact as the Monsanto patent and hereinafter referred to as the Monsanto patent, claimed the same invention as Rohm and Haas' patent, *i.e.,* propanil as a highly active herbicide. Refer to Findings 84-98. Consequently, defendants contend that Rohm and Haas' patent is invalid as the Monsanto patent was granted on an application filed in May 27, 1957, a date defendants assert is before the earliest possible date of the Rohm and Haas invention. The issue of priority of invention between Rohm and Haas and Monsanto has already been fully ventilated and has taken up a considerable part of the history of the prosecution of the patent in suit. Refer to Findings 84-98. As characterized by plaintiff, defendants are warming up many of the arguments raised by Monsanto during such interference proceedings. For the sake of completeness, however, this Court is duty bound to review the merit of each of defendants' contentions.

10. Generally, the date of an invention is deemed to be the date of the filing of an application adequately dis-

closing the subject matter of the invention with the Patent Office. *United States Expansion Bolt Co. v. Jordan Indus., Inc.*, 488 F.2d 566, 568 n.3 (3d Cir. 1973). The date of a claimed invention can be established also by proving an actual reduction to practice of the invention, or by proving a conception of the invention coupled with diligence to achieve a reduction to practice. 3 D. Chisum, *Patents* § 10.03[1] at 10-25 (1982). The burden of establishing the date of an invention or reduction to practice prior to the time of filing rests with the inventor. *Rex Chainbelt, Inc. v. Borg-Warner Corp.*, 477 F.2d 481, 487 (7th Cir. 1973). The burden of the inventor in this regard has been described as a heavy one when compared to the burden of an infringer to establish prior use.

11. The act of invention includes both conception and a reduction to practice. *Corona Cord Tire Co. v. Dovan Chem. Corp.*, 276 U.S. 358, 383, 48 S.Ct. 380, 387, 72 L.Ed. 610 (1928); *Boyce v. Anderson*, 451 F.2d 818, 820 (9th Cir. 1971). Conception "is interpreted to mean the full and complete mental act of formulating the invention to be claimed." *USM Corp. v. SPS Technologies, Inc.*, 514 F.Supp. 213, 245 (N.D.Ill. 1981). *See also Boyce v. Anderson, supra*, at 820; *Technitrol, Inc. v. United States*, 194 Ct. Cl. 596, 440 F.2d 1362, 1369 (1971); *Gunter v. Stream*, 573 F.2d 77, 80 (Cust. & Pat.App., 1978); *Knowles v. Tibbets*, 52 CCPA 1800, 347 F.2d 591 (1965), *cert. denied*, 383 U.S. 927, 86 S.Ct. 931, 15 L.Ed.2d 896 (1966). Reduction to practice has been defined in laymen's terms as "the making of the product of the invention and the testing of it to see if it performs as envisioned." *USM Corp. v. SPS Technologies, Inc., supra*, at 245. *See also Stearns v. Beckman Instruments, Inc.*, 669 F.2d 1095 (5th Cir. 1982) (" '[R]eduction to practice' includes not only [the] reduction of [an idea] to reality but also sufficient testing or experimentation to demonstrate that the device as it exists possesses sufficient utility, *i.e., that the invention is suitable for its intended purposes.*" (original

emphasis), *citing, In re Yarn Processing Patent Validity Litigation*, 498 F.2d 271, 280 (5th Cir.), *cert. denied*, 419 U.S. 1057, 95 S.Ct. 640, 42 L.Ed.2d 654 (1974); *Boyce v. Anderson, supra*, at 820.

12. In the case *sub judice*, the Court has no real difficulty in determining the date of conception. The record makes it plain that in February, 1957, Rohm and Haas first made propanil and tested it in the greenhouse at relatively high application rates. Propanil proved to be one of the most herbicidally active anilides so far discovered, and this generated considerable interest leading to an unusually rapid retesting of propanil in the greenhouse at lower rates of application. Refer to Finding 13.

On April 4, 1957, Wilson prepared a memorandum contemporaneously with a meeting held on April 3 with the inventors McRae and Wilson and other employees of Rohm and Haas were present. During this meeting, the inventors discussed propanil and its herbicidal activity, and as a result of initial testing on monocots and dicots in which propanil exhibited the highest level of activity of those compounds tested, it was decided to field test propanil and three other chloranilides during the summer of 1957. Such tests would consist initially of pre-emergence applications of the chloroanilides on corn and beans at the come-up stage, an early post-emergence test, and corn and cotton at the lay-by stage, a late post-emergence test. It was by no means the intent of the inventors at that time to limit testing of propanil to the tests described in the memorandum. Refer to Findings 14-17. Accordingly, the Court concludes that the April 4, 1957 memorandum reflects a clear conception of propanil's selective, post-emergence activity.

13. As pointed out by defendants, the two tests on beans and corn did not confirm propanil's selectivity. Pursuant to the original conception and the continuous testing of propanil initiated by the April 3 memorandum,

however, a series of tests conducted during the summer of 1957 confirmed the April 4, 1957 conception by demonstrating propanil's selective, post-emergence activity. Such tests revealed that propanil controlled weeds in tomato, potato, lawn grass, clover, strawberry, apple orchard, cotton and corn crops. Refer to Findings 18, 19. The fact that these tests continued through the summer of 1957 does not detract from the original conception. *Rey-Bellet v. Englehardt*, 493 F.2d 1380, 1387 (Cust. & Pat.App. 1974); *Bell Tel. Laboratories v. Hughes Aircraft Co.*, 422 F.Supp. 372, 379 (D.Del.1976), *aff'd*, 564 F.2d 654 (3d Cir. 1977), *cert. denied*, 435 U.S. 924, 98 S.Ct. 1489, 55 L.Ed.2d 518 (1978). Moreover, initial difficulty in confirming the idea of selectivity similarly does not adversely reflect on the completeness of the conception in the instant cause where prompt subsequent tests in the same series, carried out pursuant to the conception, proved successful. *Meitzner v. Corte*, 56 CCPA 1099, 410 F.2d 433, 437 (1969); *Trumbull v. Kirschbraun*, 67 F.2d 974, 980 (Cust. & Pat.App. 1933); *Phillips v. Carlson*, 47 CCPA 1007, 278 F.2d 732, 734 (1960); *General Motors Corp. v. Toyota Motor Co., Ltd.*, 467 F. Sup. 1142, 1165 (S.D.Ohio 1979), *aff'd in part, rev'd in part on other grounds*, 667 F.2d 504 (6th Cir. 1981), *cert. denied*, 456 U.S. 937, 102 S.Ct. 1994, 72 L.Ed.2d 457 (1982); *Shell Dev. Co. v. Pure Oil Co.*, 111 F.Supp. 197, 203-04 (D.D.C. 1953), *aff'd sub. nom., Pure Oil Co. v. Socony-Vacuum Oil Co.*, 94 U.S.App.D.C. 86, 212 F.2d 454 (1954). The initial come-up and lay-by tests were only the first step in a continuous series of tests conducted during the summer of 1957; the results of such test demonstrated propanil's utility as a selective post-emergent herbicide.

14. The inventor's concurrent investigation of other chloroanilides besides propanil does not negate the conception of propanil as a post-emergence selective herbicide as reflected in the April 4, 1957 memorandum. Refer to Finding 14. *MacMillan v. Moffett*, 58 CCPA 792, 432

F.2d 1237, 1239 (1970); *Biel v. Chessin*, 52 CCPA 1607, 347 F.2d 898, 903-04 (1965). Furthermore, conception does not require that the inventors foresee the most advantageous or commercially successful applications of the method proposed. *Kardulas v. Florida Mach. Prod. Co.*, 438 F.2d 1118, 1121 (5th Cir. 1971); *Smith v. Prutton*, 127 F.2d 79, 83 (6th Cir. 1942); *MacMillan v. Moffett*, *supra*, at 1239.

15. Wilson and McRae are entitled to "carry back" their act of invention to the date of "conception", evidenced by the memorandum of April 4, 1957. This memo provides ample evidence that the inventors possessed a mental conception of the invention sufficient to reduce it to practice, and they were diligent in carrying that conception to several successful demonstrations of propanil's selective, post-emergence herbicidal activity. Refer to Findings 14-19. *Kardulas v. Florida Mach. Prod. Co.*, *supra*, at 1121; *Mims v. Brodie*, 55 U.S.P.Q. 292 (S.D. Tex. 1941); *Litchfield v. Eigen*, 535 F.2d 72, 76 (Cust. & Pat.App. 1976); *Rey-Bellet v. Englehardt*, *supra*, at 1385-87; *Applegate v. Scherer*, 51 CCPA 1416, 332 F.2d 571, 573 (1964); *Bell Tel. Laboratories v. Hughes Aircraft Co.*, *supra*, at 379-80; *Radio Corp. of America v. Philco Corp.*, 275 F.Supp. 172, 188-191 (D.N.J. 1967); *Ritter v. Rohm & Haas Co.*, 271 F.Supp. 313, 321-28 (S.D.N.Y. 1967). Accordingly, the Court concludes that Rohm and Haas' invention is entitled to a date of invention of April 4, 1958, a date prior to the Monsanto's date of invention.

16. The Court's determination of priority of the Rohm and Haas invention was reached also by the Board of Patent Interferences. Refer to Finding 97. Defendants argue against the Board's award of priority of invention to Rohm and Haas on the basis that the Board failed to consider that the results of the come-up and lay-by tests performed after the April 4, 1957 memorandum were failures. Contrary to the assertion of defendants, the

record of the 1963 Interference shows that the contrary is true. Refer to Findings 84-97.

On June 30, 1971, the Board of Patent Interferences ended an interference proceedings which had commenced in 1963 among Rohm and Haas, Monsanto and Bayer to determine the priority of a single count:

> A method for selectivity inhibiting growth of undesirable plants in an area containing growing undesirable plants in an agronomic crop, which comprises applying to said area 3,4-dichloropropionanilide at a rate of application which inhibits growth of said undesirable plants and which does not adversely affect the growth of said agronomic crop.

After an initial award of priority to Monsanto in which the Board determined that Rohm and Haas was entitled to a conception date of April 4, 1957, Rohm and Haas was successful in its endeavors to reopen the proceeding for the submission of newly discovered evidence. Refer to Findings 88-90.

During this round of proceedings, Monsanto argued that the Board should reopen the record in order to afford it an opportunity to introduce additional evidence relevant to the date of conception awarded to Rohm and Haas previously by the Board. Monsanto argued that evidence discovered during the infringement litigation brought by it against Rohm and Haas revealed that Rohm and Haas' first few field tests with propanil conducted April 4, 1957 did not confirm selectivity. In addition, Monsanto argued that the tests suggested in the April 4 memo, *i.e.*, tests on corn and beans, initially failed to demonstrate selectivity. In denying Monsanto's motion to reopen the record to permit the introduction of additional evidence by all parties, the Board stated: "We do not regard the Wilson et al. tests referred to in the argument by Huffman to be significant as to the conclusion in our decision that the Wilson et al. April 4, 1957 memorandum (W Exh. 11) constituted evidence of

conception for Wilson et al. as of that date." Accordingly, it would appear that the Board did, in fact, consider such evidence and noted its effect on the conception date awarded to Rohm and Haas. Refer to Finding 92.

Following the completion of interference proceedings on remand, and notwithstanding further attempts by Monsanto to attack the awarded conception date, the Board weighed the evidence in light of the arguments of the two participants to the interference, and awarded priority of invention to Rohm and Haas "on the basis of first conception on April 4, 1957 followed by diligence from just prior to [Monsanto's] filing date of May 25, 1957 to the constructive reduction to practice by filing their parent application on February 13, 1958." Refer to Finding 97. Accordingly, the Court finds defendants' arguments that the Board failed to consider the failures of the come-up and lay-by tests performed after the April 4 memorandum to be without merit.

The awarded conception date was important to the renewed prosecution because Rohm and Haas argued that neither the Fischer nor Monsanto patent was an effective reference since neither was entitled to a reference date prior to April 4, 1957. Thereafter, no rejection was raised based on either Fischer or the Monsanto patent. Had the patent examiner concluded that Monsanto's evidence and arguments warranted denial of the April 4, 1957 conception date, the Wilson application would have been subject to rejection over Fischer and Monsanto.

During the renewed prosecution of the patent in suit in 1973, Rohm and Haas brought to the examiner's attention Monsanto's earlier attack of the conception date of April 4, 1958 awarded to Rohm and Haas by the Board of Patent Interferences, presented copies of Monsanto's interference papers and exhibits on point, and in the amendment which followed, specifically listed portions of the interference file which reflected Monsanto's position. Dur-

ing this time, the examiner also had available to him the entire record of the 1963 interference proceeding.

17. Nor does the Court find persuasive defendants' arguments pursuant to section 102(g) that the conception of Monsanto's invention should be carried back to the date of some observations made by Hamm. Nor can the Court sustain defendants' arguments that Hamm's observations alone constitute prior art. Refer to Finding 155, *see also* Finding 97. 35 U.S.C. § 102(g) is usually applied in the context of a priority contest rather than in the context of prior art to defeat the invention of another. In those instances where section 102(g) is invoked in arguing prior art, the invention must be completed, and until complete, no prior art exists; mere conception is simply insufficient. Consequently, the observation by Hamm does not qualify as prior art as of the date such observations were made. *James B. Clow & Sons, Inc. v. United States Pipe & Foundry Co., supra,* 313 F.2d at 48 n.1; *Reed Tool Co. v. Dresser Industries, Inc.,* 499 F.Supp. 935, 941 (S.D. Tex. 1980), *aff'd,* 672 F.2d 523 (5th Cir. 1982).

18. Rohm and Haas does not lose its patent rights with respect to the method of controlling weeds growing in rice merely because the 1958 application does not specifically refer to this plant, since the patent discloses and claims a basic, generic invention. Dr. Takematsu, who first observed the selective, post-emergence activity of propanil on rice crops, simply extended and applied what originated with and was disclosed to him by Rohm and Haas when it provided Dr. Takematsu with a sample of propanil and a description of its selective, post-emergence herbicidal activity. Refer to Findings 26-30. Dr. Takematsu simply did what he had done with an earlier herbicide sample supplied by Rohm and Haas; he conducted a routine test on the major crop in Japan using propanil supplied by Rohm and Haas, and he was paid by Rohm and Haas for this testing. Refer to Findings 25-31. Takematsu's work inures to the benefit of Rohm and

Haas. Moreover, Rohm and Haas made and disclosed its generic invention in the 1958 application before any work was carried out by Takematsu, refer to Finding 46, and hence, Takematsu's application of Rohm and Haas' disclosure can in no way be said to invalidate or limit the scope of the Wilson claims. *Metal Film Co. v. Metlon Corp.*, 316 F.Supp. 96 106-07 (S.D.N.Y., 1970); *Ansul Co. v. Uniroyal, Inc., supra*, at 289-90; *Gunter v. Stream*, 573 F.2d 77 (Cust. & Pat.App. 1978); *Lazo v. Tso*, 480 F.2d 908 (Cust. & Pat. App. 1973); *MacMillan v. Moffett, supra*, at 1239; *Applegate v. Scherer, supra.*

19. An inventor who discovers a basic new use is not required specifically to disclose, or even be aware of, all of the uses of his invention or all of its application. *Smith v. Prutton*, 127 F.2d 79, 83 (6th Cir. 1942); *MacMillan v. Moffett, supra*, at 1239; *Ansul Co. v. Uniroyal, Inc., supra*, at 290-91. A significant invention as made by Wilson and McRae will receive patent protection to encourage the type of sampling and disclosures which occurred here. The fact that Dr. Takematsu was the first to observe propanil's effect on rice does not make him an independent or co-inventor with Wilson and McRae, nor does it deprive Wilson and McRae of the right to rely on the unique effect of propanil on rice crops in support of patentability. *Eli Lilly and Co. v. Premo Pharmaceutical Laboratories, Inc.*, 630 F.2d 120, 134-35 (3rd. Cir.), *cert. denied*, 449 U.S. 1014, 101 S.Ct. 573, 66 L.Ed.2d 473 (1980); *Gunter v. Stream, supra*, at 1239-40; *Metal Film Co. v. Metlon Corp., supra*, at 106-07.

20. Assuming arguendo that Dr. Takematsu is considered to be a separate inventor of propanil's selective, post-emergence use in rice crops, this would not adversely effect either the validity or the scope of the earlier generic invention of Drs. Wilson and McRae.

A subsequent species invention, even if unobvious and hence patentable over an earlier generic invention, does not render the generic invention unpatentable and does

not require restriction of the literal scope of claims to the generic invention so as to exclude the later species. *Temco Elec. Motor Co. v. Apco Mfg. Co.*, 275 U.S. 319, 328, 48 S.Ct. 170, 173, 72 L.Ed. 298 (1928); *Bryan v. Sid. W. Richardson, Inc.*, 254 F.2d 191, 197 (5th Cir.), *cert. denied*, 358 U.S. 815, 79 S.Ct. 22, 3 L.Ed.2d 57 (1958).

21. An invention may not be patented

> if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35 U.S.C. § 103 (1954). Obviousness is a question of law determined upon the following tripartite factual evaluation: "(1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art." *Reed Tool Co. v. Dresser Industries, Inc., supra*, at 527. *See Anderson's Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 62, 90 S.Ct. 305, 308, 24 L.Ed. 2d 258 (1969) (" '[S]trict observance' of [these] requirements is necessary"); *Graham v. John Deere Co., supra*, 383 U.S. at 17-18, 86 S.Ct. at 693-94; *I.U. Technology Corp. v. Research-Cottrell, Inc.*, 641 F.2d 298, 302 (5th Cir. 1981); *Continental Oil Co. v. Cole, supra*, at 196; *Cathodic Protection Service v. American Smelting & Refining Co.*, 594 F.2d 499 (5th Cir.), *cert. denied*, 444 U.S. 965, 100 S.Ct. 453, 62 L.Ed.2d 378 (1979); *Steelcase, Inc. v. Delwood Furniture o., Inc.*, 578 F.2d 74 (5th Cir. 1978), *cert. denied*, 440 U.S. 960, 99 S.Ct. 1503, 59 L.Ed. 2d 774 (1979); *Robbins Co. v. Dresser, Indus., Inc.*, 554 F.2d 1289 (5th Cir. 1977); *Johns-Manville Corp. v. Cement Asbestos Prod. Co.*, 428 F.2d 1381 (5th Cir. 1970). Obviousness "can only be resolved through reference to the precise facts presented, not through logical

or intuitive analysis distorted by the invention's simplicity and retrospective self-evidence" or "hindsight". *Graham v. John Deere Co., supra,* 383 U.S. at 36, 86 S.Ct. at 703.

22. Factors which may shed light upon the issue of obviousness include such secondary considerations as commercial success, long felt but unsolved industry needs, the failure of others, whether others skilled in the art working independently have previously arrived at the same concept and the fact that noted experts in the field express disbelief with the new "invention." *Graham v. John Deere Co., supra,* at 17-18, 86 S.Ct. at 693-94; *Reed Tool Co. v. Dresser Indus., Inc., supra,* at 527 n.11; *I.U. Technology Corp. v. Research-Cottrell, Inc., supra,* at 302 n.6.

23. The inquiry into obviousness, as in virtually every other aspect of patentability, is designed to promote the fundamental policy underlying the patent system, *i.e.,* that the social benefits of a claimed invention outweigh the restrictive effects of the grant of a patent monopoly. *Graham v. John Deere & Co., supra,* 383 U.S. at 11, 86 S.Ct. at 690. It is designed to aid in distinguishing true "inventions" requiring more ingenuity and skill than that possessed by a person of ordinary skill in the art, and thereby deserving of patent protection, from mere routine advances in the art, which are not so deserving of protection. *Id.*

24. In assessing the patentability of an invention by the standards of 35 U.S.C. § 103, the "subject matter as a whole" must be considered, and it must be determined whether the "subject matter as a whole" would have been obvious at the time the invention was made to a person having ordinary skill in the art. In cases dealing with the patentability of chemical compounds, it is well established that whereas the molecular structure of the new compound may well be obvious when compared with the structure of related compounds that were previously in ex-

istence, the new compound may nonetheless be patentable based on a consideration of the properties exhibited by the new compounds. *Prima facie* obviousness based simply upon a comparison of molecular structures is an insufficient basis as a matter of law on which to conclude legal obviousness under 35 U.S.C. § 103. If the new compound, although structurally obvious, exhibits uses or traits that, at the time of their discovery, were not predictable to chemists or other persons skilled in the art, such differences indicate that the new compound is unobvious for purposes of section 103. *Eli Lilly & Co. v. Premo Pharmaceutical Laboratories, Inc., supra,* at 127-30; *Eli Lilly and Co. v. Generix Drug Sales, Inc.,* 460 F.2d 1096 (5th Cir. 1972); *Commissioner of Patents v. Deutsche Gold-Und-Silber-Scheideanstalt Vormals Roessler,* 130 U.S. App. D.C. 95, 397 F.2d 656 (1968); *In Re Papesch,* 50 CCPA 1084, 315 F.2d 381 (1963); *Pfizer, Inc. v. International Rectifier Corp.,* 207 U.S.P.Q. 397, 405-06 (C.D. Cal. 1980).

25. The public policy considerations underlying the aforesaid standards of patentability for chemical compounds apply equally well to novel methods which achieve unobvious and unpredictable beneficial results when compared with known methods. There is no basis in law for ignoring any result achieved by a process in assessing whether the process "as a whole" was obvious pursuant to section 103 standards. Propanil itself, as a chemical compound, was found by the Monsanto court to be unpatentable since it was described implicity in the prior art. 35 U.S.C. § 100 specifically provides that the term "process" means, *inter alia,* "a new use of a known . . . composition of matter or material". It would be anomalous to consider all of the properties of a chemical compound when assessing the patentability of claims drawn to such compound *per se,* while ignoring properties in the case of claims drawn to a statutorily approved new use of a known compound. Accordingly, claims drawn to a new method for using either an old or "obvious" composition,

wherein the method has unobvious beneficial or useful effects, have been found patentable even though the composition itself could not be patented. *In re Shetty*, 566 F.2d 81 (Cust. & Pat. App. 1977); *In re Legator*, 53 CCPA 729, 352 F.2d 377 (1965); *Joseph Bancroft & Sons, Co. v. Watson*, 170 F.Supp. 78 (D. D.C. 1959); *see also General Tire & Rubber Co. v. Jefferson Chem. Co., Inc.*, 497 F.2d 1283, 1287 (2d Cir.), *cert. denied*, 419 U.S. 968, 95 S.Ct. 232, 42 L.Ed.2d 184 (1974). When a fresh, efficacious, undisclosed result is identified by the new use of a known compound, its inventor deserves the full ambit of statutory protection. *Eli Lilly and Co. v. Generix Drug Sales, Inc., supra*, at 1103. Thus, the principles of *In re Papesch, supra*, relied upon in *Eli Lilly and Co. v. Generix Drug Sales, Inc., supra*, apply with at least equal force to method-of-use inventions. *In re Khelghatian*, 364 CCPA 1441, 364 F.2d 870, 875 (1966); *In re Legator, supra*, at 380.

26. Prior to commencement of the trial of this cause, defendants filed a notice pursuant to 15 U.S.C. § 282 listing eleven separate items of alleged prior art. Refer to Finding 148. Additionally, defendants have asserted several other items of prior art in support of their contention that the claimed invention is obvious by reason of the prior art. Each of the listed and claimed patents and publications was cited by Rohm and Haas or raised during the initial and renewed prosecutions of Rohm and Haas' patent. These prior art references were considered and disposed of in favor of the validity of the patent. *See, e.g.*, Finding 116 n.12. Consequently, as the Court concluded earlier, the presumption of the validity of Rohm and Haas' patent is strengthened. *Rohm and Haas Co. v. Owens-Corning Fiberglas Corp., supra*, at 740. *See also White v. Mar-Bel, Inc., supra*, at 291. ("[W]here . . . 'it is shown that the patent office considered prior art as close to the patented inventions as any suggested by the court, the court should be reluctant to substitute its opinion for the expertise of the patent office.'"), citing,

Ingersoll-Rand Co. v. Brunner & Lay, Inc., 474 F.2d 491, 496 (5th Cir.), *cert. denied*, 414 U.S. 865, 94 S.Ct. 125, 38 L.Ed.2d 117 (1973). *Arnold Pipe Rentals Co. v. Eng'g. Enter., Inc., supra*, at 890; *Jeoffroy Mfg., Inc. v. Graham*, 219 F.2d 511, 519 (5th Cir.), *cert. denied*, 350 U.S. 826, 75 S.Ct. 55, 100 L.Ed. 738 (1955); *Southern States Equip. Corp., v. USCO Power Equip. Corp., supra*, at 118; *Arthur J. Schmitt Found. v. Stockham Valves and Fittings, Inc.*, 292 F.Supp. 893, 907 (N.D. Ala. 1966), *aff'd*, 404 F.2d 13 (5th Cir. 1968), *cert. denied*, 398 U.S. 965, 90 S.Ct. 2177, 26 L.Ed.2d 549 (1970). *See also Hildreth v. Mastoras, supra*, 257 U.S. at 32, 42 S.Ct. at 22. The onus placed on the proponent asserting that the patent is obvious has been described by the Supreme Court as follows:

> [W]hen the defense is a prior invention, 'the burden of proof to make good this defense' is 'upon the party setting it up,' and 'every reasonable doubt should be resolved against him.' *Cantrell v. Wallick*, 117 U.S. 689, 695, 696 [6 S.Ct. 970, 973, 974, 29 L.Ed. 101]; *Coffin v. Ogden* [85 U.S.], 18 Wall. 120, 124 (21 L.Ed.2d 821]; *The Barbed Wire Patent*, 143 U.S. 275, 285 [12 S.Ct. 443, 447, 36 L.Ed. 154]; *Washburn v. Gould*, 3 Story 122, 142; *H.J. Heinz Co. v. Cohn* [125 CCA 197], 207 Fed. 547, 554; *Detroit Motor Appliance Co. v. Burke*, 4 F.(2d) 118, 122; *Wilson v. Willard Mfg. Co. v. Bole*, 227 Fed. 607, 609; *Stoody Co. v. Mills Alloys, Inc.*, 67 F.(2d) 807, 809; cf. *Morgan v. Daniels, supra* [153 U.S. 120], p. 123 [14 S.Ct. 772, 773, 38 L.Ed. 657]. Again it is said that 'the presumption of the validity of the patent is such that the defense of invention by another must be established by the clearest proof—perhaps beyond a reasonable doubt.' *Austin Machinery Co. v. Buckeye Traction Ditcher Co.*, 13 F.(2d) 697, 700. The context suggests that in these and like phrases the courts were not defining a standard in terms of

> scientific accuracy or literal precision, but were offering counsel and suggestion to guide the course of judgment. Through all the verbal variances, however, there runs this common core of thought and truth, that one otherwise an infringer who assails the validity of a patent fair upon its face bears a heavy burden of persuasion, and fails unless his evidence has more than a dubious preponderance. Cf. *Philippine Sugar E.D. Co. v. Philippine Islands*, 247 U.S. 385, 391 [38 S.Ct. 513, 515, 62 L.Ed. 1177].

Radio Corp. of America v. Radio Eng'g Laboratories, Inc., 293 U.S. 1, 7-8, 54 S.Ct. 752, 756, 78 L.Ed. 1453 (1934). The reliance by the defendants upon a large number of references as prior art is indicative, though by no means dispositive, of invention as well as the futility of prior attempts to solve the problem. *Minneapolis-Honeywell Regulator Co. v. Midwestern Instruments, Inc.*, 298 F.2d 36, 38 (7th Cir. 1961); *Reynolds v. Whitin Mach. Works*, 167 F.2d 78, 83-84 (4th Cir.), *cert. denied*, 334 U.S. 844, 68 S.Ct. 1513, 92 L.Ed. 1768 (1948); *Rohm and Haas Co. v. Owens-Corning Fiberglas Corp.*, *supra*, at 741; *Arthur J. Schmitt Found. v. Stockham Valves & Fittings, Inc.*, *supra*, at 907.

27. After closely examining the scope and content of the prior art, the Court determines that significant and important differences between the prior art and the claims at issue exist. The Court has resolved the level of ordinary skill in the art, and against that background, concludes that the invention embodied in the Wilson patent as defined in each of its claims is a non-obvious advance over the prior art. It is not anticipated by the prior art, and it fully merits patent protection under all of the applicable tests of the 1952 Patent Act and the pertinent case law. Refer to Findings 149-160. In this conclusion, the Court is mindful of and has strictly applied the Supreme Court's analyses and approach in determining validity as set forth in *Graham v. John Deere Co.*, *supra*,

383 U.S. at 17, 86 S.Ct. at 693. *See also Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 96 S.Ct. 1532, 47 L.Ed.2d 784 (1976); *Dann v. Johnston*, 425 U.S. 219, 96 S.Ct. 1393, 47 L.Ed.2d 692 (1976); *Anderson's Black Rock, Inc. v. Pavement Salvage Co., supra*, 396 U.S. at 61-62, 90 S.Ct. at 308.

28. The Wilson invention solved a long-standing and widely existing problem in the rice growing industry. Refer to Findings 41-43. Although a secondary consideration under the guidelines of *Graham v. John Deere Co., supra*, 383 U.S. at 17-18, 86 S.Ct. at 693-94, long felt but unsolved needs and the failure of others to discover an invention to satisfy those needs are persuasive evidence that the invention being claimed is unobvious and constitutes an important and patentable contribution to the public. *Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279, 64 S.Ct. 593, 594, 88 L.Ed. 721 (1944); *Ingersoll-Rand Co. v. Brunner & Lay, Inc., supra*, at 497; *Smith Indus. Int'l v. Hughes Tool Co.*, 396 F.2d 735, 737-38 (5th Cir. 1968); *Huyck Corp. v. Albany Int'l Corp.*, 193 U.S.P.Q. 200, 203 (M.D. Ala. 1977); *Mobil Oil Corp. v. W.R. Grace & Co.*, 367 F.Supp. 207, 235 D. Conn. 1973).

29. There has been widespread adoption and extensive use of the Wilson invention. This extensive use on a worldwide basis is attributable to the merits of the Wilson discovery and not to advertising which is essentially non-existent in this art. Refer to Finding 41-44. While again secondary under the guidelines of *Graham v. John Deere Co., supra*, commercial success and industry recognition of the Wilson patent are further evidence of a patentable invention. *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 55-56, 43 S.Ct. 322, 325, 67 L.Ed. 523 (1923); *Ingersoll-Rand Co. v. Brunner & Lay, Inc., supra*, at 497; *Shaw v. E.B. & A.C. Whiting Co.*, 417 F.2d 1097, 1105-06 (2d Cir. 1969), *cert. denied*, 397 U.S. 1076, 90 S.Ct. 1518, 25 L.Ed.2d 811 (1970); *Berry Bros. Corp. v. Sigmon*, 317 F.2d 700, 703 (4th Cir.

1963); *Rohm & Haas Co. v. Roberts Chem., Inc.*, 245 F.2d 693 (4th Cir. 1957).

30. Taking both the primary and secondary factors into consideration, the Court concludes that the differences between the invention described by the claims of the Wilson patent and the teachings in the prior art cited by all defendants, such teachings being considered either singularly or in any combination of items, are such that the patented subject matter as a whole was not obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains, within the meaning of section 103 of Title 35 of the United States Code.

31. The patent in suit satisfies all of the requirements of utility, novelty and non-obviousness pursuant to 35 U.S.C. § 101-103. Defendants have failed to marshall sufficient probative evidence that the invention claimed in the patent in suit is invalid as obvious over or anticipated by the prior art. Contrarily, the record before the Court establishes that the patented invention was not obvious to one skilled in the pertinent art at the time it was made.

C. *Fraud on the Patent Office*

32. The legal principles that this Court must follow in reviewing the merits of defendants' fraudulent procurement claims have been established by the Fifth Circuit as follows:

> Our start is with the rubric that because the grant of a patent is affected with a public interest, an applicant owes 'an uncompromising duty to report to [the Patent Office] all facts concerning possible fraud or inequitableness underlying the applications in issue.' *Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co.*, 1945, 324 U.S. 806, 818, 65 S.Ct. 993, 999, 89 L.Ed. 1381,

1388; *Kingsland v. Dorsey*, 1949, 338 U.S. 318, 319, 70 S.Ct. 123, 124, 94 L.Ed. 123, 126. The concept that a patent is invalid because of misconduct by the patentee in proceedings before the Patent Office goes beyond the classical definition of fraud, and encompasses a wide variety of inequitable conduct. *Carter-Wallace, Inc. v. Davis-Edwards Pharmacal Corp.*, 2 Cir. 1971, 443 F.2d 867, 881; *Norton v. Curtiss*, 1960, 433 F.2d 779, 793, 57 C.C.P.A. 1384. Although the type of misconduct before the Patent Office which results in the invalidity of a patent admits to no fixed parameters, it is necessary that there be some element of wrongfulness, willfulness, or bad faith. See *Monsanto Co. v. Rohm & Haas Co.*, 3 Cir. 1972, 456 F.2d 592, 597, cert. denied 407 U.S. 934, 92 S.Ct. 2463, 32 L.Ed.2d 817; *A.H. Emery Co. v. Marcan Products Corp.*, 2 Cir. 1968, 389 F.2d 11, cert. denied 393 U.S. 835, 89 S.Ct. 109, 21 L.Ed.2d 106; *Xerox Corp. v. Dennison Mfg. Co.*, D.C.N.Y. 1971, 322 F.Supp. 963, 969. Hence, mere negligent omissions or misstatements to the Patent Office do not provide sufficient basis for a finding of fraud or misrepresentation by an applicant for a patent. *Xerox Corp., supra.*

Parker v. Motorola, Inc., 524 F.2d 518, 534-35 (5th Cir. 1975), *cert. denied*, 425 U.S. 975, 96 S.Ct. 2175, 48 L.Ed.2d 799 (1976). *See also Precision Instrument Mfg. Co. v. Automotive Maintenance Machin. Co.*, 324 U.S. 806, 818, 65 S.Ct. 993, 999, 89 L.Ed. 1381 (1945) ("Those who have applications pending with the Patent Office or who are parties to Patent Office Proceedings have an uncompromising duty to report to it all facts concerning possible fraud or inequitableness underlying the applications in issue. *Lam, Inc. v. Johns-Manville Corp.*, 668 F.2d 462 (10th Cir. 1982) ("An applicant must fully disclose all matters reflecting adversely upon the application, 'and he risks non-enforce-

ment of his monopoly on later discovery of a failure to fulfill that obligation.' "), citing, *True Temper Corp. v. CF & I Steel Corp.*, 601 F.2d 495, 501 (10th Cir. 1979); *Digital Equip. Corp. v. Diamond*, 653 F.2d 701, 708-710 (1st Cir. 1981); *Eudy v. Motor Guide, Herschede Hall Clock Co.*, 651 F.2d 299, 305 (5th Cir. 1981); *Monsanto Co. v. Rohm & Haas Co.*, 456 F.2d 592, 598-99 (3rd Cir.), *cert. denied*, 409 U.S. 899, 93 S.Ct. 108, 34 L.Ed.2d 158 (1972).

33. After carefully reviewing the record in this cause regarding the prosecution of the Rohm and Haas patent application in light of the arguments raised by defendants, the Court concludes that defendants have failed to carry the burden and adduce sufficient probative evidence to establish that Rohm and Haas procured the patent in suit by fraud or inequitable conduct. The record of the prosecution of plaintiff's patent application, particularly that part of the record regarding the renewed prosecution in 1973, unequivocally indicates that the patent examiner was fully informed of all of the factors material to the patentability of the methods claimed in plaintiff's patent. Refer to Findings 108-123, 128, 129. Although there is evidence that Rohm and Haas omitted herbicidal test data from affidavits submitted during the early prosecution of plaintiff's patent application, these omissions were brought to the patent examiner's attention during the renewed prosecution of the patent in suit. Moreover, Rohm and Haas provided the patent examiner with the omitted data, where possible, and all additional herbicidal data in its possession. Refer to Findings 117-120. Nor can the Court find fault sufficient to warrant a finding of fraud or inequitable conduct with the oaths executed by Wilson and McRae and contained in the 1960 and 1961 applications. Refer to Findings 70, 80. Consequently, the Court is unable to conclude that the patent in suit was procured by fraud. Refer to Findings 28, 29. *American Hoist & Derrick Co. v. The Manitowoc Co., Inc.*, 448 F.Supp.

1372, 1384-85 (E.D. Wis. 1978), *aff'd*, 603 F.2d 629 (7th Cir. 1979); *United States v. Cold Metal Process Co.*, 62 F.Supp. 127, 140 (N.D. Ohio 1945), *aff'd*, 164 F.2d 754 (6th Cir. 1947), *cert. denied*, 334 U.S. 835, 68 S.Ct. 1343, 92 L.Ed. 1761 (1948). *Cf. Allen v. W.H. Brady Co.*, 508 F.2d 64 (7th Cir. 1974) (appellate court reversed trial court's award of attorney's fees pursuant to 35 U.S.C. § 285 on the basis that the patentee was not guilty of lack of candor by waiting several months to bring relevant prior art to the patent examiner's attention after patentee had become aware of such art).

In summation, defendants have failed to discharge their burden of proof of overcoming the presumption of validity accorded the patent in suit. Defendants have not proffered any evidence which would cause Rohm and Haas' patent to be held invalid under any statutory provision. Accordingly, the Court concludes that the patent in suit is valid and enforceable.

D. *Infringement*

34. Generally, in order to constitute infringement, the alleged infringing device must be substantially similar in structure, mode of operation, and results accomplished as the device covered by the patent. *Weidman Metal Masters Co., Inc. v. Glass Master Corp.*, 623 F.2d 1024, 1030 (5th Cir. 1980), *cert. denied*, 450 U.S. 982, 101 S.Ct. 1519, 67 L.Ed.2d 817 (1981). In applying this general test of infringement, courts use a two step analysis. The first step involves an inquiry into whether the accused device literally infringes the patent in suit. If not, then the court's attention is directed to an application of the doctrine of equivalents.

As the Supreme Court described literal infringement in *Graver Tank & Mfg. Co. v. Linde Air Products*, 339 U.S. 605, 607, 70 S.Ct. 854, 855, 94 L.Ed. 1097 (1950): "resort must be had in the first instance to the words of the claim. If accused matter falls clearly within the

claim, infringement is made out and that is the end of it." *See also Lam, Inc. v. Johns-Manville Corp., supra,* at 471; *Studiengesellschaft Kohle mbh v. Eastman Kodak Co.,* 616 F.2d 1315, 1324 (5th Cir. 1982); *John Zink Co. v. National Airoil Burner Co., supra,* at 555. In other words, "[a] device may infringe . . . 'literally' by matching each feature of the patent claim. . . ." *Lam, Inc. v. Johns-Manville Corp., supra,* at 471. "In considering literal infringement the patent's claims must be read in connection with patent's specification and its file history, and the claims of the patent cannot be given a construction broader than the teachings expressed in the patent." *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra,* at 1324; *See also Motion Picture Patents Co. v. Universal Film Mfg. Co.,* 243 U.S. 502, 37 S.Ct. 416, 61 L.Ed. 871 (1917).

35. If patents were restricted to the literal scope of their claims, minor deviations in the structure of almost any invention would elude the reach of the patent's protection. In recognition of the fact that a patent would be virtually worthless if it did not protect against devices which incorporate unimportant variations of the patent, the doctrine of equivalents was judicially developed to protect the patentee from devices that differ merely in name, form or shape from the patented invention but perform substantially the same function in substantially the same way to obtain the result. *Graver Tank & Mfg. Co. v. Linde Air Products, supra,* 339 U.S. at 608, 70 S.Ct. at 856; *Lam, Inc. v. Johns-Manville Corp., supra,* at 471; *Shields v. Halliburton Co.,* 667 F.2d 1232, 1238 (5th Cir. 1982); *John Zink Co. v. National Airoil Burner Co., supra,* at 555; *Ziegler v. Phillips Petroleum Co.,* 483 F.2d 858, 868 (5th Cir.), *cert. denied,* 414 U.S. 1079, 94 S.Ct. 597, 38 L.Ed.2d 485 (1973). *See generally* 7 A. Deller, *Deller's Walker on Patents* § 546 (2d ed. 1972). The essence of this doctrine commonly referred to as the doctrine of equivalents

is that one may not practice a fraud on a patent. *Graver Tank Co. v. Linde Air Products Co., supra,* 339 U.S. at 608, 70 S.Ct. at 856.

36. The burden of establishing equivalency for the purpose of showing infringement is on the patentee. As aptly stated in *Ziegler v. Phillips Petroleum Co., supra,* at 868 (citations omitted), the patentee sustains his burden by proving:

> a real identity of means, operation, and result. But while substantial identity of function, operation, and result are necessary, the doctrine does not require complete identity for every purpose and in every respect. In determining equivalents, things equal to the same thing may not be equal to each other and, by the same token, things for most purposes different may sometimes be equivalents. *Graver, supra* 339 U.S. at 609, 70 S.Ct. at 857. Hence, minor variations between the accused structure and the precise language of the claims in question do not prevent a holding of infringement.

37. The nature of the invention determines the breadth of its protection under the doctrine of equivalents. An inventor is entitled to a range of equivalents commensurate with the scope of his invention. "[W]hat constitutes equivalency 'must be determined against the context of the patent, the prior art, and the particular circumstances of the case.'" *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra,* at 1324, *citing, Graver Tank & Mfg. Co., Inc. v. Linde Air Products, supra,* 339 U.S. at 609, 70 S.Ct. at 857. *See also John Zink Co. v. National Airoil Burner Co., supra,* at 555; *Ziegler v. Phillips Petroleum Co., supra,* at 869, *citing, American Seating Co. v. Southeastern Metals Co.,* 412 F.2d 756 (5th Cir. 1969). The Fifth Circuit has elucidated additional guidelines which must be followed in applying the doctrine of equivalents:

> In examining the context of the patent itself, the patent claims must be construed in the light of the description and the real invention disclosed in the patent's specifications and examples. The specific facets of the invention described in the patent are guides to objects covered by the patent, but they are not necessarily the exclusive description of the invention.

Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra, at 1324. If the invention is broad and primary in its character, the range of equivalents will be correspondingly broad under the liberal construction which the courts give to such inventions. *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 414, 28 S.Ct. 748, 749, 52 L.Ed. 1122 (1908), *citing Miller v. Eagle Mfg. Co.*, 151 U.S. 186, 14 S.Ct. 310, 38 L.Ed. 121 (1894); *Continental Oil Co. v. Cole, supra*, at 191; *Ziegler v. Phillips Petroleum Co., supra*, at 869.

The broadest protection under the doctrine of equivalents is reserved for "pioneer" or "generic" patents. Such patents are those covering a function never before performed, a wholly novel device, or one of such novelty and importance as to mark a distinct step in the progress of the art, as distinguished from a mere improvement or perfection of what has already been in existence. *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1324; *John Zink Co. v. National Airoil Burner Co., supra*, at 555; *Ziegler v. Phillips Petroleum Co., supra*, at 870, *citing, Westinghouse v. Boyden Power Brake Co.*, 170 U.S. 537, 561-62, 18 S.Ct. 707, 718, 42 L.Ed. 1136 (1898). Where the court is confronted with a pioneer patent, liberality becomes the keynote of construction. *Ziegler v. Phillips Petroleum Co., supra*, at 870.

38. The application of the doctrine of equivalents can be curbed by appropriate invocation of the doctrine of file wrapper estoppel.

Under this limitation, if during prosecution in the patent office, the application narrows, surrenders, or amends claims to meet obligations of the examiner, the inventor cannot later recapture through the doctrine of equivalents that which he has eliminated from the claims. *Graham v. John Deere Company*, 383 U.S. at 33, 86 S.Ct. at 701; *Exhibit Supply Co. v. Ace Corporation*, 315 U.S. 126, 136-37, 62 S.Ct. 513, 518-19, 86 L.Ed. 736 (1942); *Ziegler v. Phillips Petroleum Co.*, 483 F.2d 858, 870 (5th Cir.), *cert. denied*, 414 U.S. 1079, 94 S.Ct. 597, 38 L.Ed.2d 485 (1973). Mere surrender or amendment, however, does not totally bar use of equivalents. The estoppel applies only to that which was surrendered and the court must investigate what was given up to receive the patent. *Ziegler v. Phillips Petroleum Co.*, 483 F.2d at 870. In at least two situations, an applicant will not be presumed to have made a disclaimer broader than was necessary to yield to the examiner's challenge. First, when one looks at the difference between the patent and the prior art, if the element in the accused device falls on the side of the patent, only a narrow range of equivalents may be applied. *Nationwide Chemical Corp. v. Wright*, 584 F.2d 714, 719 (5th Cir. 1978). For example, in *Wright*, the prior art required large dosages of the chemicals in dispute. The patent claimed dosages of less than four ounces. The accused chemicals required dosages of more than four ounces, so no equivalency was proper. *Id.* Second, when the claim's limitation is inserted to overcome some objection other than prior art, the presumption that the disclaimer will not be read more broadly than necessary will apply. *Id. See Ziegler v. Phillips Petroleum Co.*, 483 F.2d at 810.

John Zink Co. v. National Airoil Burner Co., supra, at 556. *See also Lam, Inc. v. Johns-Manville Corp., supra*,

at 471-72; *Continental Oil Co. v. Cole, supra,* at 198; *Ziegler v. Phillips Petroleum Co., supra,* at 870-71. An invention must be construed not only in the light of its claims but also with reference to its file wrapper or prosecution history in the patent office. *Ziegler v. Phillips Petroleum Co., supra,* at 870.

39. It is well settled that a patentee may be his own lexicographer and grammarian. *Feed Service Corp. v. Kent Feeds, Inc.,* 528 F.2d 756, 762 (7th Cir.), *cert. denied,* 429 U.S. 870, 97 S.Ct. 182, 50 L.Ed.2d 150 (1976); *Harrington Mfg. Co., Inc. v. White, supra,* at 796-98; *Hughes Tool Co. v. Varel Mfg. Co., Inc.,* 336 F.2d 61, 64 (5th Cir. 1964); *Thurber Corp. v. Fairchild Motor Corp.,* 269 F.2d 841, 850 (5th Cir. 1959); *Inglett & Co., Inc. v. Everglades Fertilizer Co., Inc.,* 255 F.2d 342, 347 (5th Cir. 1958) ("Courts have all acknowledged that the 'patentee may be his own lexicographer and * * * his own grammarian' . . . ."), *citing, Chicago Steel Foundry Co. v. Burnside Steel Foundry Co.,* 132 F.2d 812, 814 (7th Cir. 1943). He "may define his own terms, regardless of common or technical meaning. . . . Fairness to any patentee requires the court to accept his definition of words, phrases and terms." *Rajah Auto Supply Co. v. Belvidere Screw & Mach. Co.,* 275 F. 761, 763 (7th Cir. 1921).

40. "Claim language is not to be interpreted in a vacuum but is to be read in light of the specification to determine the meaning intended by the inventors". *San/Bar Corp. v. International Tel. & Tel. Corp.,* 187 U.S.P.Q. 67, 77 (M.D. Fla. 1975). The file wrapper in its entirety, including the definitions and arguments made during the prosecution of the patent in question, can also aid the Court in ascertaining the meaning of terminology used in the claims. Accordingly, when a patentee argues before the court for a definition which is consistent with the file wrapper, the courts will give effect to that definition. *Arnold Pipe Rentals Co. v. Engineering Enter.,*

Inc., supra, at 890-891; *Edward Valves, Inc. v. Cameron Iron Works, Inc.,* 286 F.2d 933, 943-945 (5th Cir. 1961), *modified on other grounds,* 289 F.2d 355 (5th Cir.), *cert. denied,* 368 U.S. 833, 82 S.Ct. 55, 7 L.Ed.2d 34 (1961); *George P. Converse & Co. v. Polaroid Corporation,* 136 F.Supp. 912, 916 (D. Mass. 1955); *see also Smith v. Snow,* 294 U.S. 1, 12-16, 55 S.Ct. 279, 283-85, 79 L.Ed. 721 (1935).

41. During the prosecution of the 1961 application, Rohm and Haas introduced the term "established" crop into each of its claims then pending. Rohm and Haas defined the term "established" in accompanying remarks as the equivalent of emerged, *i.e.,* the crop was visible and above the ground and embraced all subsequent stages of growth. Each of the 1958, 1960 and 1961 applications filed in the patent office employed the word "established", and the use of the term in those applications although not then defined in the dictionary sense, was consistent with the word definition provided during prosecution. Refer to Findings 141-146.

42. During the renewed prosecution of the patent in suit, Rohm and Haas cancelled dependent claims which identified the crop as rice. At the time such claims were cancelled, however, Rohm and Haas presented and has always maintained claims generic to rice crops. The claims as issued include the terms "crop", "crop is monocotyledonous", "grain crop", and "monocotyledonous crop", each of which is generic to and embraces rice. In cancelling the claims contained in its then pending application which specifically recited rice, Rohm and Haas did not narrow the remaining claims to exclude rice. Refer to Findings 130, 132 and n. 15, 135, 136 and n.16. Indeed, the patent examiner acknowledged that rice was embraced by the generic claims. Refer to Finding 130. Consequently, the Court is of the opinion that Rohm and Haas did not limit its claims pending before the Patent Office during the prosecution of the patent in suit, and

thereafter attempt to avoid any limitations by seeking a broader construction of its claims through the doctrine of equivalents. *See Williams Bit & Tool Co. v. Christensen Diamond Prod. Co.*, 399 F.2d 628, 634 (5th Cir. 1968); *Hunt v. Armour & Co.*, 185 F.2d 722, 727 (7th Cir. 1950); *Spee-Flo Mfg. Corp. v. Binks Mfg. Co.*, 264 F.Supp. 542 (S.D. Tex. 1967), *aff'd*, 392 F.2d 585 (5th Cir. 1968). Consequently, the Court concludes that in the instant cause, no estoppel arises from the cancelling of the narrow claims while presenting and obtaining the broader claims. *Smith v. Snow, supra*, 294 U.S. at 15-16, 55 S.Ct. at 284-85; *Olympic Fastening Sys., Inc. v. Texron, Inc.*, 504 F.2d 609, 614-15 (6th Cir. 1974), *cert. denied*, 420 U.S. 1004, 95 S.Ct. 1447, 43 L.Ed.2d 762 (1975); *Hunt v. Armour & Co., supra*, at 727; *France Mfg. Co. v. Jefferson Elec. Co.*, 106 F.2d 605, 609 (6th Cir. 1939), *cert. denied*, 309 U.S. 657, 60 S.Ct. 471, 84 L.Ed. 1006 (1940); *Research Prod. Co. v. Tretolite Co.*, 106 F.2d 530, 535-36 (9th Cir. 1939); *Bendix Corp. v. United States*, 199 U.S.P.Q. 203, 209 (Ct. Cl. 1978).

43. The methods described on the labels and promotional material utilized by the defendants in this suit since 1974, if followed, directly infringe the literal terms of claims 1-3, 6, and 8-12 as contained in the patent in suit. Refer to Findings 139-147, 163-167.

44. Assuming arguendo that the Court were to sustain defendants' limited interpretation of the term established, the methods recommended by defendants and practiced by those using defendants' propanil products would still infringe the patent in suit through the doctrine of equivalents. Refer to Findings 139-147, 163-167.

45. Section 271(b) of Title 35 provides in relevant part: "Whoever actively induces infringement of a patent shall be liable as an infringer." In order to establish that defendants actively induced the infringement of

Rohm and Haas' patent, Rohm and Haas must prove that defendants purposefully caused, urged or encouraged another individual to infringe Rohm and Haas' patent. *Honeywell, Inc. v. Metz Apparatewerke*, 509 F.2d 1137 (7th Cir. 1975); *Fromberg, Inc. v. Thornhill*, 315 F.2d 407, 411 (5th Cir. 1963). Defendants' actions must also be taken "with the knowledge of the likely infringing result." *Burlington Indus., Inc. v. Exxon Corp.*, 379 F.Supp. 754, 757 (D. Md. 1974); *see also Fromberg, Inc. v. Thornhill, supra*, at 411.

46. By promoting and selling their propanil products together with the recommendation that they be used as a selective, post-emergence herbicide to control weeds in rice crops, defendants have induced others, *i.e.*, farmers and other applicators, directly to infringe the method claims of the patent in suit. Although fully aware of the existence of Rohm and Haas' patent, defendants promoted and sold propanil products with the specific recommendation that the product be used in an infringing manner. Farmers and applicators, whether direct or ultimate customers, used the propanil products in the methods as claimed by the patent in suit pursuant to defendants' recommendations. Refer to Findings 163-167. This constitutes active inducement of infringement rendering defendants "liable as an infringer" 35 U.S.C. § 271(b) (1954).

47. Section 271(c) of Title 35 of the United States Code defines contributory infringement as follows:

> Whoever sells a . . . material . . . for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially . . . adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

Hence, in order to establish contributory infringement, Rohm and Haas must establish the following: (1) that defendants sold a material to be used in a patented process; (2) that such material constituted an integral or material part of the patented process; (3) that defendants knew the material to be especially adapted for use in the infringement of the patent in suit; and (4) that the material did not constitute a staple article suitable for substantial non-infringing use. *Aro Mfg. Co., Inc. v. Convertible Top Replacement Co.*, 377 U.S. 476, 84 S.Ct. 1526, 12 L.Ed.2d 457 (1964). Additionally, "there can be no contributory infringement without the fact or intention of a direct infringement." *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526, 92 S.Ct. 1700, 1706, 32 L.Ed.2d 273 (1972). *See also Dawson Chemical Co. v. Rohm and Haas Co.*, 448 U.S. 176, 217-219, 100 S.Ct. 2601, 2623-2624, 65 L.Ed.2d 696 (1980).

48. The uncontradicted evidence clearly established that from 1975 to 1981 the defendants sold herbicides for use in practicing the method patented by Rohm and Haas, and that the propanil products were used by purchasers in a manner which directly infringed the patent in suit. Refer to Findings 163-167.

Propanil is an essential, integral part of the Rohm and Haas inventive process. Defendants knew that propanil was not a staple article of commerce suitable for noninfringing uses, and they did not offer evidence to prove otherwise. In order to establish that propanil is a staple component under 35 U.S.C. § 271, it must be shown that propanil has an actual and substantial noninfringing use; a theoretical capability does not suffice. *Fromberg, Inc. v. Thornhill, supra*, at 415. *See also United States Gypsum Co. v. National Gypsum Co.*, 440 F.2d 510, 515 (7th Cir.), *cert. denied*, 403 U.S. 923, 91 S.Ct. 2233, 29 L.Ed. 2d 702 (1971). Additionally, the "quality, quantity and efficiency of the suggested uses are to be considered." *Reynolds Metals Co. v. Aluminum Company of America*,

457 F.Supp. 482, 509 (N.D. Ind. 1978), *rev'd on other grounds*, 609 F.2d 1218 (7th Cir. 1979), *cert. denied*, 446 U.S. 989, 100 S.Ct. 2976, 64 L.Ed.2d 847 (1980). In the case at bar, the evidence clearly illustrates that the only actual commercial use which exists for propanil is to selectively control weeds in crops such as rice and wheat by post-emergence application, precisely as the Wilson patent claims. Defendants were aware also of the existence of Rohm and Haas' patent when the sales of their propanil products were made. Refer to Findings 163-167. Accordingly, the Court concludes that Rohm and Haas has proven also that defendants are guilty of contributory infringement of claims 1-3, 6 and 8-12 of the patent in suit.

E. *Should the Supreme Court's Decision be Applied Only Prospectively?*

As a partial defense to Rohm and Haas' claim for infringement damages, defendants have interposed the contention that the Supreme Court's earlier decision in this case with respect to the misuse defense should not be applied retroactively. The resolution of this defense requires a consideration of the facts of this case in light of the relevant law.

49. The United States Supreme Court decision earlier in this case on the misuse issue was predicated on statutory construction of section 271 of the Patent Act of 1952, and the extent to which Congress had modified by legislation earlier decisions of the Supreme Court. In its opinion affirming the Fifth Circuit's decision reversing this Court's decision in defendants' favor, the Supreme Court found that "by enacting §§ 271(c) and (d), Congress granted to patent holders a statutory right to control nonstaple goods that are capable only of infringing use in a patented invention, and that are essential to that invention's advance over prior art." *Dawson Chemical Co. v. Rohm and Haas Co., supra*, 448 U.S. at 213, 100 S.Ct. at 2621. In response to defendants' arguments

that plaintiff's conduct fell outside the ambit of § 271(d), the Court found that plaintiff "has done nothing that would extend its right of control over unpatented goods beyond the line that Congress drew." *Id.* at 213-14, 100 S.Ct. at 2621-22. The Supreme Court did not limit expressly or impliedly the scope of its decision to prospective cases only.

50. The United States Constitution neither prohibits nor requires that changes in the law be applied retroactively. *Linkletter v. Walker*, 381 U.S. 618, 629, 85 S.Ct. 1731, 1737, 14 L.Ed.2d 601 (1965). It is the general rule in our system of jurisprudence, however, that judicial decisions are to apply retroactively. *Cash v. Califano*, 621 F.2d 626, 628 (4th Cir. 1980); *Valencia v. Anderson Bros. Ford*, 617 F.2d 1278, 1288 (7th Cir. 1980), *rev'd on other grounds*, 452 U.S. 205, 101 S.Ct. 2266, 68 L.Ed.2d 783 (1981); *Zweibon v. Mitchell*, 196 U.S.App. D.C. 265, 606 F.2d 1172, 1187 (1979), *cert. denied*, 453 U.S. 912, 101 S.Ct. 3147, 69 L.Ed.2d 997 (1981); *Benedict Oil Co. v. United States*, 582 F.2d 544, 549 (10th Cir. 1978); *People of the State of California v. Italian Motorship Ilice*, 534 F.2d 836, 840 n. 1 (9th Cir. 1976). *See also* 1B J. Moore, *Moore's Federal Practice* ¶ 0.402, at 171 (2d ed. 1948). "Generally speaking, this is necessarily so for the parties before the Court. It is implicitly so for all other potential litigants." *Cash v. Califano, supra*, at 628. The standards to be utilized by a court in determining whether a decision in a non-criminal context should be made retroactively have been set forth by the Supreme Court in a three part test:

> First, the decision to be applied nonretroactively must establish a new principle of law, either by overruling clear past precedent on which litigants may have relied, see *e.g., Hanover Shoe, Inc. v. United Shoe Machinery Corp., supra*, 392 U.S. [481], at 496, 88 S.Ct. [2224], at 2233 [20 L.Ed.2d 1231], or by deciding an issue of first impression whose resolution

> was not clearly foreshadowed, see, *e.g.*, *Allen v. State Board of Elections*, *supra*, 393 U.S. [544], at 572, 89 S.Ct. [817], at 835 [22 L.Ed.2d 1]. Second, it has been stressed that 'we must * * * weigh the merits and demerits in each case by looking to the prior history of the rule in question, its purpose and effect, and whether retrospective operation will further or retard its operation.' *Linkletter v. Walker*, *supra*, 381 U.S. [618], at 629, 85 S.Ct. [1731], at 1738 [14 L.Ed.2d 601]. Finally, we have weighed the inequity imposed by retroactive application, for '[w]here a decision of this Court could produce substantial inequitable results if applied retroactively, there is ample basis in our cases for avoiding the 'injustice or hardship' by a holding of nonretroactivity.' *Cipriano v. City of Houma*, *supra*, 395 U.S. [701], at 706, 89 S.Ct. [1897], at 1900 [23 L.Ed.2d 647].

Chevron Oil Co. v. Huson, 404 U.S. 97, 106-07, 92 S.Ct. 349, 355, 30 L.Ed.2d 296 (1971). "Because prospective-only application is the exception rather than the rule, the party seeking to invoke *Chevron Oil* bears the burden of proving that such limited application is justified." *Cash v. Califano*, *supra*, at 629; *Valencia v. Anderson Bros. Ford*, *supra*, at 1289, and each of the factors elucidated in *Chevron Oil Co. v. Huson*, *supra*, must be shown. *Cash v. Califano*, *supra*, at 629; *Valencia v. Anderson Bros. Ford*, *supra*, at 1289.

51. Contrary to defendants' argument, the Supreme Court in its earlier decision in this case did not establish a new principle of law but rather construed a statute that had been enacted by Congress in 1952. The Court agrees with the statement in plaintiff's brief that any overruling of past precedent occurred when Congress enacted section 271 of the Patent Act. The fact that the Supreme Court may have clarified a principle which had been the subject of some confusion as to its effect does not alter the Court's conclusion. An argument similar to the

one being raised here met the same fate in *Fleming v. Fleming*, 264 U.S. 29, 31-32, 44 S.Ct. 246, 247, 68 L.Ed. 547 (1923):

> the contention is that the same statute was one law when first construed before the making of the contract, and has become a new and different act of the legislature by the later decision of the court. This is ingenuous but unsound. It is the same law. The effect of the subsequent decisions is not to make a new law, but only to hold that the law always meant what the court now says it means. The court has power to construe a legislative act, but it has no power, by change in construction, to date its passage as a law from the time of the later decision. A statute in force when a contract was made cannot be made a subsequent statute through new interpretation by the courts.

See also United States v. Estate of Donnelly, 397 U.S. 286, 294-95, 90 S.Ct. 1033, 1038, 25 L.Ed.2d 312 (1970).

52. The second part of the test directs the Court to look to the purpose and effect of the rule, and to determine whether retroactive application will further or retard the operation of the rule.

Upon reviewing defendants' arguments with regard to the second factor, the Court concludes that to deny retroactive application in this case would subserve the merits of this cause and circumvent Congressional intent as embodied in 35 U.S.C. § 271(d). The intent of Congress in enacting section 271 in 1952 has been ventilated fully on several different occasions in this cause with which the parties are totally familiar, and, accordingly, it would serve no useful purpose to engage in a lengthy analysis of the section's legislative history. It is sufficient to state that prior to either Rohm and Haas' invention or defendants' decisions to jump on the propanil bandwagon, Congress sanctioned the actions of Rohm and Haas in li-

censing the use of its patented process only in connection with the purchase of propanil, a nonstaple product. Rohm and Haas has expended considerable effort to obtain a patent on its invention and then enforce its patent. To deny retroactive application of a rule which has been in effect since 1952 and thereby punish Rohm and Haas for actions it took in accordance thereto would retard the operation of section 271.

53. The defendants argue finally that the retroactive application of the Supreme Court's decision would produce substantial inequitable results. Defendants contend that they continued to sell propanil for use as a selective, post emergence herbicide after the issuance of the patent in suit in reliance upon the opinions of their counsel that Rohm and Haas was illegally monopolizing the sale of propanil. To apply the Supreme Court's decision retroactively would expose them to a considerable amount of damages which could cause those defendants who have not yet filed bankruptcy to do so. Such damages, defendants assert further, are insignificant in comparison to the profits Rohm and Haas will gain over the remaining life of the patent. Upon reviewing the aforestated arguments, the Court is in agreement with defendants that the results of retroactive application of the Supreme Court's decision will be substantial. The Court is unable to agree with defendants, however, that such results will be inequitable.

Since 1974, defendants have continued to manufacture and sell propanil as a selective, post emergence herbicide despite Rohm and Haas' repeated demands to refrain from doing so. *See, e.g.*, Findings 161-167, 169. During this time, Rohm and Haas has never relented in its refusal to license defendants. Even after the Fifth Circuit rendered its decision in Rohm and Haas' favor on the misuse issue, defendants continued to manufacture and sell propanil. If defendants were unsure as to the interpretation of section 271 in 1974 and in 1978, any reasonable doubt possessed by defendants dissipated in 1980

with the Supreme Court's decision. Yet, defendants continued to manufacture and sell propanil despite Rohm and Haas' refusal to license defendants to sell propanil. Consequently, the Court concludes that defendants' claim of inequity is somewhat belated and defendants will not now be heard to complain of the bitter fruit that has sprung from the seeds that they had reason to suspect were faulty, yet chose to sow and rely upon. As it has been stated aptly by one court:

> The *Chevron Oil* doctrine is not directed at insulation of litigants from the consequences of their conscious business decisions; rather, its purpose is to avoid the hardship which can result from retroactive application of decisions which represent sudden, unexpected shifts in the law. This is not such a case.

Any inequity under the circumstances would result only if the Court denies retrospective application.

F. *Personal Liability of Joe Eller*

54. Rohm and Haas seeks to fasten personal liability on Eller. Of course, Eller is vehemently opposed to this claim. It is a general rule of law supported by cases far too numerous to list that officers of a corporation are personally responsible for the alleged tortious conduct of the corporation, if they personally took part in the commission of the tort or specifically directed other officers, agents or employees of the corporation to commit the act. *See generally* 3A W. Fletcher, *Cyclopedia of the Law of Private Corporations* § 1135 (rev. perm. ed. 1975). *See, e.g., Escude Cruz v. Ortho Pharmaceutical Corp.*, 619 F.2d 902 (1st Cir. 1980); *L.C.L. Theatres, Inc. v. Columbia Pictures Indus., Inc.*, 619 F.2d 455 (5th Cir. 1980); *Jefferson Pilot Broadcasting Co. v. Hilary & Hogan, Inc.*, 617 F.2d 133 (5th Cir. 1980); *Donsco, Inc. v. Casper Corp.*, 587 F.2d 602, 606 (3rd Cir. 1978); *A & M Records, Inc. v. M.V.C. Distributing Corp.*, 574 F.2d 312, 315 (6th Cir. 1978); *Boz Scaggs Music v. KND Corp.*, 491

F. Supp. 908, 913-14 (D. Conn. 1980); *H.M. Kolbe Co. v. Shaff*, 240 F.Supp. 588, 589-90 (S.D.N.Y.), *aff'd. in part and appeal dismissed in part*, 352 F.2d 285 (2d Cir. 1965). A number of courts have recognized and in some cases imposed personal liability on corporate officers for participating in, inducing and approving acts of patent infringement. *Wilden Pump & Eng'g Co. v. Pressed & Welded Prod. Co.*, 655 F.2d 984, 990 (9th Cir. 1981); *White v. Mar-Bel, Inc., supra*, at 292-93; *Rex Chainbelt, Inc. v. General Kinematics Corp.*, 363 F.2d 336, 348 (7th Cir. 1966); *International Mfg. Co., Inc. v. Landon, Inc.*, 336 F.2d 723, 728-29 (9th Cir. 1964), *cert. denied*, 379 U.S. 988, 85 S.Ct. 701, 13 L.Ed.2d 610 (1965); *Marks v. Polaroid Co.*, 237 F.2d 428, 429 (1st Cir. 1956), *cert. denied*, 352 U.S. 1005, 77 S.Ct. 564, 1 L.Ed. 550 (1957); *Dean Rubber Mfg. Co. v. Killian*, 106 F.2d 316, 320 (8th Cir.), *cert. denied*, 308 U.S. 624, 60 S.Ct. 380, 84 L.Ed. 521 (1939); *Claude Neon Lights, Inc. v. American Neon Lights Corp.*, 39 F.2d 548, 550 (2d Cir. 1930); *Universal Athletic Sales Co. v. American Gym*, 480 F.Supp. 408, 416-17 (W.D. Pa. 1979); *H.C. Prod. Co. v. Air Vent, Inc.*, 468 F.Supp. 750, 761 (C.D. Ill. 1979); *Thompson Tool Co., Inc. v. Rosenbaum*, 443 F.Supp. 559, 561 (D. Conn. 1977); *Pugh v. Roe*, 440 F.Supp. 638, 646 (W.D. La. 1977); *U.S. Philips Corp. v. National Micronetics, Inc.*, 410 F. Supp. 449, 468-69 (S.D.N.Y. 1976), *aff'd*, 550 F.2d 716 (2d Cir.), *cert. denied*, 434 U.S. 859, 98 S.Ct. 183, 54 L.Ed.2d 131 (1977); *Timely Prod. Corp. v. Arron*, 303 F.Supp. 713 (D. Conn. 1969); *American Technical Mach. Corp. v. Masterpiece Enter., Inc.*, 235 F.Supp. 917, 918 (M.D. Pa. 1964); *Briggs v. M & J Diesel Locomotive Filter Corp.*, 228 F.Supp. 26, 60-61 (N.D. Ill. 1964), *aff'd*, 342 F.2d 573 (7th Cir.), *cert. dismissed*, 382 U.S. 801, 86 S.Ct. 11, 15 L.Ed.2d 55 (1965), and the cases cited therein; *Tom Lockerbie, Inc. v. Fruhling*, 207 F.Supp. 648, 656 (E.D. Wis. 1962).

Although it is not altogether clear as to what acts, at a minimum, would subject a corporate officer to personal

liability, the following factual scenario is illustrative of when a corporate officer will be personally liable for infringement:

> Marshlack's argument that he acted only as president of Mar-Bel and then only with advice of counsel has a hollow ring. He was the incorporator, president, majority stockholder, and moving force which resulted in the manufacture of the accused device. He participated in the development and promotion of the sale of his machine which was marketed soon after White's machine was exhibited in 1968. Two years elapsed between notification of infringement and defense counsel's reply challenging the validity of the patent. In our view, there was substantial evidence upon which the jury could find Marshlack liable for inducing Mar-Bel's infringement.

White v. Mar-Bel, Inc., supra, at 292.

55. There is no question in light of the facts disclosed in the record that Eller can be held personally liable for the infringement of Rohm and Haas' patent. Eller was the majority stockholder, a director, president and chief executive officer of the Crystal defendants. Refer to Findings 4, 173. By his own admissions substantiated by the testimony of other corporate officers and employees of Crystal, Eller was the moving force behind these companies managing their operations on a daily basis. Eller was also the moving, active, conscious force behind Crystal's infringement. Eller alone made the decision to enter the propanil market, and personally directed the manufacture and sale of propanil. In addition, Eller personally dealt with distributors of the defendants' propanil product and appeared in advertisements promoting defendants' propanil products. Finally, he has been identified as the individual most knowledgeable at Crystal respecting the manufacture, use, sale, advertising, research and suggested use of propanil and propanil products. Refer to Finding 173.

G. *Laches and Estoppel*

On the day of the issuance of the patent in suit, Rohm and Haas filed the instant suit against Helena and Crystal. It was not until the fall of 1980, more than six years from the commencement of this cause, that Rohm and Haas filed suit against Eller and the ARGE. Defendants contend that Rohm and Haas' delay in asserting its claims against Eller and ARGE, coupled with its prior knowledge of both Eller's and ARGE's involvement with Crystal and the sale of propanil, compels a finding that laches bars plaintiff's requested claims for relief against these parties.

56. Laches and estoppel are equitable defenses whose appropriateness must be decided upon the facts of each particular case. *Menendez v. Holt*, 128 U.S. 514, 9 S.Ct. 143, 32 L.Ed. 526 (1888); *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1325. *See also Environmental Defense Fund, Inc. v. Alexander*, 614 F.2d 474, 475 (5th Cir.), *cert. denied*, 449 U.S. 919, 101 S.Ct. 316, 66 L.Ed.2d 146 (1980). Laches forecloses retroactive relief. *Environmental Defense Fund v. Marsh*, 651 F.2d 983, 1005 n.32 (5th Cir. 1981). Estoppel, on the other hand, bars prospective relief. *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1325.

57. Laches conceptualizes the inequity that would result if a stale claim were permitted to be enforced; its application is left to the sound discretion of the judge. *Gardner v. Panama R. Co.*, 342 U.S. 29, 30, 72 S.Ct. 12, 13, 96 L.Ed. 31 (1951); *Environmental Defense Fund v. Alexander, supra*, at 478.

58. Rohm and Haas' delay in asserting its claim against Eller and ARGE is measured against the six year statutory period for the recovery of damages in a patent case. *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1326; *TWM Mfg. Co., Inc. v. Dura Corp.*, 592 F.2d 346 (6th Cir. 1979); *General Elec. Co. v. Sciaky*

Bros, Inc., 304 F.2d 724, 727 (6th Cir. 1962). *See* 35 U.S.C. § 286 (1954). Nevertheless, laches may be an effective bar to plaintiff's claims asserted within the period specified by the corresponding statute of limitations. *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1326; *Whitman v. Walt Disney Prod., Inc.*, 263 F.2d 229, 232 (9th Cir. 1958).

59. "Mere delay in bringing suit is not, of itself, sufficient to constitute laches in a patent infringement action." *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1326; *Maloney-Crawford Tank Corp. v. Rocky Mountain Natural Gas Co., Inc.*, 494 F.2d 401, 403 (10th Cir. 1974); *Jenn-Air Corp. v. Penn Ventilator Co.*, 464 F.2d 48, 50 (3rd Cir. 1972). Before the doctrine of laches can be invoked, it is well established that the proponent of the defense has the burden of showing: (1) that the plaintiff delayed in asserting its rights; (2) that the delay was inexcusable; and (3) that the defendants are unduly prejudiced thereby. *Pegues v. Morehouse Parish School Board*, 632 F.2d 1279, 1282 n.3 (5th Cir. 1980) ("Mere lapse of time . . . is not sufficient to constitute laches; inexcusable delay and resulting undue prejudice are the essential elements of the defense."), *cert. denied*, 451 U.S. 987, 101 S.Ct. 2322, 68 L.Ed.2d 844 (1981); *Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra*, at 1326; *Environmental Defense Fund v. Alexander, supra*, at 478; *Watz v. Zapata Off-Shore Co.*, 500 F.2d 628, 632 (5th Cir. 1974). In regards to the respective burdens that the parties must bear, it is the law of this Circuit that

> Where the plaintiff's delay has exceeded the statutory six-year period, the delay is presumed unreasonable, and the plaintiff has the burden of justifying the delay. Similarly, when the delay exceeds six years, injury to the defendant is presumed, and the defendant need not necessarily produce additional evidence of prejudice.

Studiengesellschaft Kohle mbh v. Eastman Kodak Co., *supra*, at 1326. Conversely, "[w]here the action is brought [within] the analogous limitation period . . . the defendant must show both that the delay is unreasonable and that he has suffered injury." *Id. See also Maloney-Crawford Tank Corp. v. Rocky Mountain Natural Gas Co., Inc.*, *supra*, at 404; *Dymo Indus., Inc. v. Monarch Marking Sys., Inc.*, 474 F.Supp. 412, 415 (N.D. Tex. 1979).

60. The reference point for determining the length of Rohm and Haas' delay is the time when Rohm and Haas knew or should have known in the exercise of reasonable diligence of the defendants' alleged infringement. The reference date is not necessarily the date of the patent in suit's issuance. *Watkins v. Northwestern Ohio Tractor Pullers Ass'n.*, 630 F.2d 1155, 1161 (6th Cir. 1980); *Studiengesellschaft Kohle mbh v. Eastman Kodak Co.*, *supra*, at 1326; *Moore v. Schultz*, 491 F.2d 294, 300-01 (10th Cir. 1974). Rohm and Haas will not be charged with any delay occurring before the issuance of the patent in suit. *Watkins v. Northwestern Ohio Tractor Pullers*, *supra*, at 1161; *Maloney-Crawford Tank Corp. v. Rocky Mountain Natural Gas Co., Inc.*, *supra*, at 403.

61. Applying the aforementioned test to the case *sub judice* in view of the additional standards which have been grafted upon the test in the context of a patent infringement case, it is clear that Rohm and Haas knew that ARGE was a distributor of Crystal's propanil products prior to the issuance of the patent in suit. Because Rohm and Haas cannot be charged with any delay until the issuance of the patent, however, the Court will utilize June 11, 1974 as the reference point in determining the length of Rohm and Haas' delay with respect to ARGE.

62. In considering the commencement of Rohm and Haas' delay with respect to Eller, the complicated nature of the facts of this case precludes a mechanical and an

abbreviated determination. Defendants urge and indeed the record indicates that plaintiff knew prior to the issuance of its patent that Eller was a corporate officer and principal shareholder. Consequently, defendants argue inferentially that the reference point for a determination of delay is June 11, 1974. In pursuing this argument, defendants fail to consider that because of the veil of protection normally afforded officers and shareholders of corporations, Eller could not have been sued by Rohm and Haas for patent infringement by reason of Rohm and Haas' knowledge of Eller's peripheral connection to the Crystal defendants. Nor is Eller a party to this suit solely because he is a corporate officer and principal shareholder of the Crystal defendants. Rather, Eller was sued by Rohm and Haas because he was, until Crystal declared bankruptcy, the moving force behind the Crystal defendants, controlled their activities on a day to day basis, and was the architect of the course of allegedly infringing activities in which the Crystal defendants have been engaged. *See* Plaintiff's Motion to Amend and Supplement the Complaint, and Memorandum in Support of Rohm and Haas Company's Motion to Amend and Supplement the Complaint.

The record before the Court does not indicate that such information regarding Eller's intimate relationship with the Crystal defendants was known to Rohm and Haas prior to the issuance of the Rohm and Haas patent. Rather, the Court's own review of the record indicates that such information was not obtained by Rohm and Haas until discovery was resumed by Rohm and Haas after its successful appeal. The Court concludes further that Rohm and Haas could not have obtained information regarding the extent of Eller's involvement with the Crystal defendants enabling it to conclude that Eller was a possible infringer any earlier than following the remand of this case from the Fifth Circuit. Although Rohm and Haas was able to conduct limited discovery after the com-

mencement of this cause, further discovery attempts by it were thwarted by defendants who desired to litigate initially the misuse issue. The litigation of such issue, at least to the Circuit level, took approximately three and one half years.

63. Rohm and Haas asserts that Eller was informed that it intended to pursue an infringement action against him because of Eller's awareness of Rohm and Haas' vigorous patent enforcement efforts and unwaivering refusal to license anyone under its patent. Knowledge of other infringement litigation or the consistent refusal by Rohm and Haas to license anyone under its patent is not an important factor. Instead, the Court must determine when Rohm and Haas either filed similar litigation against Eller or when Rohm and Haas threatened Eller with such action. *See Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra,* at 1328; *American Home Prod. Corp. v. Lockwood Mfg. Co.,* 483 F.2d 1120, 1124 (6th Cir. 1973), *cert. denied,* 414 U.S. 1158, 94 S.Ct. 917, 39 L.Ed. 2d 110 (1974). In reviewing the record, the first unequivocal assertion of Rohm and Haas' intent to sue Eller for infringement was when Rohm and Haas filed its motion to amend its complaint to add Eller as an individual defendant. Such motion was filed on October 14, 1980, a date well within six years of the date Rohm and Haas first could have known or even suspected that Eller was an infringer. Accordingly, Eller bears the burden of proving that Rohm and Haas' delay in filing its claim against him was unreasonable and that such delay has caused him to suffer prejudice.

64. With respect to ARGE, the Court must reach a different result. As concluded earlier, the Court will utilize the reference date of June 11, 1974, the date of the issuance of the patent in suit, in calculating the length of Rohm and Haas' delay. The Court concludes once again that Rohm and Haas' delay did not exceed the six year statutory period since ARGE had notice of Rohm and

Haas' intent to sue it through a letter Rohm and Haas sent to ARGE in the early fall of 1979. Accordingly, Rohm and Haas' delay will not be presumed unreasonable and the onus of establishing that Rohm and Haas' delay was unreasonable and that such delay caused injury is on ARGE.

65. A variety of factors have been recognized as constituting prejudice to a defendant by reason of a plaintiff's delay in asserting its claim.

> Chief among these are the fact that important witnesses have died, that the memories of other witnesses have been dulled, that relevant records have been destroyed or are missing, and that the defendant has made heavy capital investments in its facilities in order to expand production connected with the alleged infringing article.

Studiengesellschaft Kohle mbh v. Eastman Kodak Co., *supra*, at 1326-27. *See also Advanced Hydraulics, Inc. v. Otis Elevator Co.*, 525 F.2d 477, 482 (7th Cir.), *cert. denied*, 423 U.S. 869, 96 S.Ct. 132, 46 L.Ed.2d 99 (1975); *Continental Coatings Corp. v. Metco, Inc.*, 464 F.2d 1375, 1378 (7th Cir. 1972); *Brennan v. Hawley Prod. Co.*, 182 F.2d 945, 948 (7th Cir.), *cert. denied*, 340 U.S. 865, 71 S.Ct. 89, 95 L.Ed. 631 (1950). During the trial of this cause, Eller did not introduce any evidence of prejudice or injury which was caused by Rohm and Haas' delay. Rather, Rohm and Haas introduced evidence through Eller's testimony that the contrary was true. No witnesses were lost, dead or unaccounted for who might be needed in the litigation by Eller and all necessary records were available. Additionally, neither Mr. Eller nor his companies have made any substantial investment in their physical plant, advertising, research or any other aspect of the propanil business since the institution of this case.

66. Nor did ARGE proffer any credible evidence of prejudice. Rather, Rohm and Haas introduced evidence

indicating that ARGE had not suffered any injury or prejudice by reason of Rohm and Haas' delay. During the trial of this cause, both past and present corporate officers of ARGE testified that they knew of no documents that had been lost or destroyed, or any witnesses who had died that could assist in ARGE's defense of this suit. Since ARGE was a distributor rather than a manufacturer of propanil, no capital investments were made to increase the production of propanil. Accordingly, based on the above the Court is unable to conclude that ARGE has suffered any prejudice or injury by reason of plaintiff's delay.

67. As alluded to many times throughout this opinion, the instant cause is extremely unusual and complex from the standpoint of the issues involved, by reason of the protracted history of the prosecution of the patent in suit and the litigation now before the Court. When the suit was first filed, the only entities named as defendants were known manufacturers of propanil. Rohm and Haas, although able to conduct some limited discovery, ran into stiff opposition with respect to its discovery attempts within a matter of months from the filing of this cause when both defendants filed motions requesting that all discovery be stayed in the case until after the disposition by the Court of defendants' motions for summary judgment. For the next year and a half, the only action which took place in this cause was with respect to the parties' cross-motions for summary judgment on the misuse issue. On August 10, 1976 this Court granted defendants' motions for summary judgment and on November 23, 1976, dismissed Rohm and Haas' cause without prejudice.

Faced with an unfavorable decision that its actions in refusing to license its patent except impliedly through the purchase of its propanil product constituted patent misuse, Rohm and Haas was in no position to file suit against additional infringers which it may have known at the time its patent was issued or that Rohm and Haas may

have discovered subsequent to the institution of this suit. Such suits, if filed, would have been subsequently dismissed on the misuse defense. Instead, Rohm and Haas pursued the only avenue of relief open to it and appealed this Court's decision. During such appeal, plaintiff attempted to expedite its appeal but such attempts were opposed by defendants.

On August 24, 1979, Rohm and Haas was successful in its appellate endeavors, and the Fifth Circuit remanded this case back to this Court for further disposition. Although there was some action between the parties after the Fifth Circuit's decision, none of the parties to this cause took any substantial steps towards conducting discovery and preparing this cause for trial until after the Supreme Court entered its opinion affirming the decision of the Fifth Circuit. Immediately thereafter, plaintiff's in-house counsel sent a letter to several distributors of propanil, including ARGE, informing them that

> the United States Supreme Court has recently affirmed that the policy of Rohm and Haas Company not to grant licenses under its propanil patent is entirely proper. So that there will be no confusion in the marketplace, we wish to confirm that we do not intend to modify this policy. In addition, we intend to continue to enforce our patent vigorously against those who either manufacture or distribute propanil, based on their acts of infringement and our ability to collect damages from such infringers.

Within one to two months of the Supreme Court's decision, both Eller and ARGE were sued as alleged infringers of Rohm and Haas' patent. Upon reviewing the circumstances of this suit as set forth above, the Court concludes that the Rohm and Haas delay in filing suit against Eller and ARGE is reasonable and excusable.

68. In order to assert successfully a defense of estoppel, defendants must prove that Rohm and Haas made

representations or acted in such a way that defendants could reasonably infer that the patent would not be enforced. *Menendez v. Holt, supra; Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra,* at 1325; *Lebold v. Inland Steel Co.,* 125 F.2d 369, 375 (7th Cir. 1941), *cert. denied,* 316 U.S. 675, 62 S.Ct. 1045, 86 L.Ed. 1749 (1942); *see also Advanced Hydraulics, Inc. v. Otis Elevator Co., supra,* at 479; *Armstrong v. Motorola, Inc.,* 374 F.2d 764 (7th Cir.), *cert. denied,* 389 U.S. 830, 88 S.Ct. 95, 19 L.Ed.2d 88 (1967). As stated recently by the Fifth Circuit:

> estoppel . . . requires not only delay by the plaintiff and prejudice to the defendant but also misleading action by the plaintiff which causes the defendant to engage in conduct which would result in its injury if the suit were allowed to go forward. The plaintiff must have made representations or engaged in conduct which justifies an inference of abandonment of the patent claim or which has induced the infringer to believe that its business would be unmolested. As the Sixth Circuit observed in *TWM Manufacturing Co., Inc. v. Dura Corp.,* 592 F.2d at 350, for silence to work an estoppel, 'some evidence must exist to justify an inference that the silence was sufficiently misleading to amount to "bad faith"'. *See also Continental Coatings Corp. v. Metco, Inc.,* 464 F.2d at 1379-80.

Studiengesellschaft Kohle mbh v. Eastman Kodak Co., supra, at 1330.

Upon reviewing the facts of the instant cause, the Court concludes that defendants have failed to marshal sufficient probative evidence to enable them to establish the defense of estoppel. The Court is not aware of any evidence indicating or even suggesting that Rohm and Haas engaged in actions or made representations which justifies an inference that Rohm and Haas abandoned its patent claim. Nor did Rohm and Haas engage in any ac-

tion from which Eller or ARGE could have reasonably inferred that they would go unmolested. Accordingly, the Court concludes that plaintiff is not estopped from asserting, and on the basis of the Court's earlier conclusions, from recovering against Eller and ARGE for their infringement of the Wilson patent.

H. *Antitrust Counterclaims*

In response to the antitrust counterclaim advanced by defendants, Rohm and Haas has raised a number of preliminary issues which must be resolved before the Court can focus its attention on the merits of defendants' counterclaims.

1. *Statute of Limitations*

69. Rohm and Haas asserts that various counterclaims filed by Eller and Crystal are barred by the four year statute of limitations applicable in an antitrust suit. Section 15b of Title 15 of the United States Code provides that "[a]ny action to enforce any cause of action under section 15 or 15a shall be forever barred unless commenced within four years after the cause of action accrued." Not surprisingly, defendants take issue with Rohm and Haas' assertion. The Crystal defendants respond that their original counterclaims were based upon all of the facts known to them at that time. Such counterclaims, defendants contend, put Rohm and Haas on notice that defendants were asserting claims based upon Rohm and Haas' anticompetitive, monopolistic and predatory activities in the propanil market. It was not until after the Supreme Court's decision in this cause and the resumption of discovery that defendants were able to uncover additional facts supporting their prior antitrust allegations. Defendants assert further that the allegations contained in their amended answer filed in 1981 "are not 'new' claims, but merely amplifications and fleshing out . . . of defendants' previous claims that Plaintiff has illegally attempted to monopolize the propanil market and has restrained trade

in that market. . . ." Defendants' Memorandum in Opposition to Plaintiff's Motion Under Rules 12 and 56 FRCP at 49. In order to place the issues raised by the parties with respect to the statute of limitations defense into proper perspective, a review of the antitrust counterclaims filed in this case might be helpful.

On July 2, 1974, the Crystal defendants filed counterclaims alleging violations of 15 U.S.C. §§ 1, 2, and 14 on three distinct grounds: (1) Rohm and Haas' practice of granting licenses under its patent only to those who purchased propanil made by it, (2) Rohm and Haas' coercion of distributors to purchase propanil from only Rohm and Haas, and (3) an alleged conspiracy between Rohm and Haas and Monsanto to monopolize the propanil market. These practices, defendants alleged, constituted an unreasonable restraint of trade on propanil and attempts to monopolize the market on propanil. *See* Answer and Counterclaim of Dawson Chemical Company, Crystal Manufacturing Corporation and Crystal Chemical Company. A subsequent pleading filed on October 8, 1979 contained the same claims.

Eller's antitrust counterclaims were first asserted on December 10, 1980 in an answer filed on behalf of Crystal and Eller. This pleading raised the same claims which formed the basis of Crystal's original counterclaims. *See* Answer and Counterclaim of Dawson Chemical Company, Crystal Manufacturing Corporation, Crystal Chemical Company, Joe C. Eller and Wilton W. Vardeman to Third Amended and Supplemental Complaint.[19]

On April 6, 1981, this Court granted an unopposed motion filed by Crystal and Eller for leave to file their first

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[19] The counterclaims advanced by ARGE are predicated on its principal allegation that Rohm and Haas has engaged in illegal anticompetitive activity by tying the licensing of its patent to the purchase of propanil which it manufactures. Rohm and Haas has not raised its statute of limitations defense against ARGE's counterclaims.

amended counterclaims. This pleading contained a myriad of new claims in addition to defendants' original antitrust allegations. Such new claims included allegations that Rohm and Haas and Bayer agreed to divide the worldwide propanil market between themselves, that Rohm and Haas obtained the patent in suit by committing fraud on the patent office, and that the filing and the prosecution of the instant cause constituted an integral part of a plan to monopolize illegally the propanil market. In this pleading, defendants alleged for the first time that Rohm and Haas committed the acts alleged in their counterclaims in furtherance of a course of action calculated to monopolize the United States market for propanil.[20] *See* First Amended Answer and Counterclaim of Dawson Chemical Company, Crystal Manufacturing Corporation, Crystal Chemical Company, Joe C. Eller and Wilton W. Vardeman to Third Amended and Supplemental Complaint. The Crystal defendants argue now that their counterclaims are not timed barred because of the benefit accorded them by Rule 15(c), Fed.R.Civ.P.

70. Rule 15(c) of the Federal Rules of Civil Procedure governs the relation back of amendments to claims. Amendments may relate back "[w]henever the claim or defense asserted in the amended pleading arose out of the conduct, transaction, or occurrence set forth or attempted to be set forth in the original pleading. . . ." Fed.R.Civ.P. 15(c). *See, e.g., Sessions v. Rusk State Hosp.*, 648 F.2d 1066, 1070 (5th Cir. 1981).

71. In determining whether Crystal's amendment is entitled to relate back to the time of the filing of the orig-

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[20] In a response to a motion to dismiss filed by plaintiff during the trial, Crystal and Eller abandoned their antitrust counterclaims predicated on alleged threats made or coercive tactics pursued by Rohm and Haas prior to the issuance of the patent in suit, and on an alleged agreement between Monsanto and Rohm and Haas to divide the herbicide propanil market. *See* Defendants' Reply to Plaintiff's Motion to Dismiss at 6.

inal pleading, the primary focus of the Court is on the notice given to Rohm and Haas of the conduct asserted in the Amendment. *See Hageman v. Signal L.P. Gas, Inc.*, 486 F.2d 479 (6th Cir. 1973); *Woods Exploration & Producing Co. v. Aluminum Co. of America*, 438 F.2d 1286, 1300 (5th Cir. 1971), *cert. denied*, 404 U.S. 1047, 92 S.Ct. 701, 30 L.Ed.2d 736 (1972).

72. Statutes of limitations are designed to ensure that parties are given formal and seasonable notice that a claim is being asserted against them.

> Rule 15(c) is based on the idea that a party who is notified of litigation concerning a given transaction or occurrence is entitled to no more protection from statutes of limitation than one who is informed of the precise legal description of the rights sought to be enforced. If the original pleading gives fair notice of the general fact situation out of which the claim arises, the defendant will not be deprived of any protection that the state statute of limitations was designed to afford him. Being able to take advantage of plaintiff's pleading mistakes is not one of these protections.

3 J. Moore, *Moore's Federal Practice* ¶ 15.15[2], at 1590-91 (2d ed. 1981). *See also Woods Exploration & Producing Co. v. Aluminum Co. of America, supra*, at 1299; *Williams v. United States*, 405 F.2d 234, 236-37 (5th Cir. 1968). The doctrine of relation back is liberally applied, *see Williams v. United States, supra*, at 236, and "is particularly persuasive in antitrust suits where there is ample opportunity for discovery and other pretrial procedures." *Woods Exploration & Producing Co. v. Aluminum Co. of America, supra*, at 1300.

73. The amended antitrust counterclaims filed on April 6, 1981 do not alter materially the original counterclaims. The counterclaims alleging violations of sections 1, 2 and 14 of Title 15 of the United States Code are

the same with the exception that the Crystal defendants amplified and added further facts in support of their claims. Defendants' amended counterclaim was filed after extensive discovery was conducted by the parties to the suit. The intensity of the discovery effort and the direction of such discovery pursued by defendants at times indicates to the Court that Rohm and Haas were neither surprised nor prejudiced when defendants' amended counterclaim was filed. Indeed, the motion for leave to amend which amplified the factual allegations underlying defendants' counterclaims was unopposed by Rohm and Haas. "The compendious record in this case justifies (this Court's) conclusion that no one was litigating in the darkness." *Woods Exploration & Producing Co. v. Aluminum Co. of America, supra,* at 1300. Consequently, the Court concludes that the statute of limitations will not preclude the Crystal defendants from recovering on their amended counterclaims.

74. Before addressing the merits of the argument advanced by Eller in his attempt to avoid the statute of limitations defense, an argument raised as well by Crystal, it is necessary to address the novel argument of Rohm and Haas regarding the applicability of the relation back doctrine of Rule 15(c). Essentially, Rohm and Haas contends that the relation back doctrine of Rule 15(c) is inapplicable to counterclaims, since counterclaims are controlled by Rule 13(f) which contains no provision for relation back. Although a thorough search of the reported case law has uncovered very little authority, either in support of or in opposition to the Rohm and Haas argument, the Court concludes that such an assertion is inconsistent with a fair and reasonable reading of the applicable rules of procedure. Despite plaintiff's reliance on *Stoner v. Terranella,* 372 F.2d 89 (6th Cir. 1967), the Court is of the opinion that Rules 13(f) and 15(c) are not mutually exclusive. As discussed in *Butler v. Poffinberger,* 49 F.R.D. 8, 11 (N.D. W. Va. 1970):

> First, there is nothing in the language of Rule 15(c) to indicate that it applies only to amendments under Rule 15(a). Rule 15(c) speaks only of 'amendments'. If the Rule was meant to encompass less than all of the amendments authorized by the Federal Rules, one would expect some indication of that fact within the Rule. Secondly, the criteria established by Rule 15 (c) can be satisfied by at least some Rule 13(f) amendments. As shown above, the amendment in the instant case meets all of the tests prescribed by Rule 15(c).

See also Diematic Mfg. Corp. v. Packaging Indus., Inc., 412 F.Supp. 1367, 1374 (S.D.N.Y. 1976); 3 J. Moore, *Moore's Federal Practice, supra*, ¶ 13.33, at 13-848 n.6; 6 C. Wright and A. Miller, *Federal Practice and Procedure* § 1496, at 486-88 (1971). Accordingly, plaintiff's claim that Rule 15(c) has no application to counterclaims, and particularly to the counterclaims being pursued by Crystal, is without merit.

75. Eller as well as Crystal seek to avoid the statute of limitation defense advanced by Rohm and Haas by invoking the continuing violation exception formulated in the seminal cases of *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 401 U.S. 321, 338-42, 91 S.Ct. 795, 806-08, 28 L.Ed.2d 77 (1971) and *Hanover Shoe, Inc. v. United Shoe Mach. Corp.*, 392 U.S. 481, 88 S.Ct. 2224, 20 L.Ed. 2d 1231 (1968). Unfortunately for the Court, neither party, particularly defendants who logically bear the laboring oar in establishing the continuing violation exception, have adequately briefed the issues raised by defendants' assertion of the exception. This is somewhat curious considering the efforts spent in briefing the other issues presented by this case. Nevertheless, the Court is duty bound to assemble the relevant law, apply the law to the facts of this case, and arrive at a just result.

"Generally, an antitrust cause of action accrues, and the four-year statute of limitations begins to run when a

defendant commits an act that injures a plaintiff's business," *Kaiser Aluminum & Chem. Sales, Inc. v. Avondale Shipyards, Inc.*, 677 F.2d 1045, 1051 (5th Cir. 1982). However, two grounds have been recognized as supporting the commencement of an antitrust suit more than four years after the occurrence of the events that initially created a cause of action. *See Zenith Radio Corp. v. Hazeltine Research, Inc., supra*, 401 U.S. at 338, 91 S.Ct. at 806; *Hanover Shoe, Inc. v. United Shoe Mach. Corp., supra*, 392 U.S. at 501, 88 S.Ct. at 2235 (1968). As discussed in *Kaiser Aluminum & Chem. Sales, Inc. v. Avondale Shipyards, Inc., supra*, at 1051 (citations and footnotes omitted):

> The first ground is the continuing conspiracy or continuing violation exception that permits a cause of action to accrue whenever the defendant commits an overt act in furtherance of an antitrust conspiracy, commits an act that by its very nature is a continuing antitrust violation.
>
> The second ground involves situations where the defendant's antitrust act is 'revived' outside the limitations period, as a basis for damages, because when the act originally occurred, the plaintiff's damages were speculative or unprovable.

76. In the case *sub judice*, defendants do not attempt to invoke the second exception, but rather seek to invoke the continuing violation exception by claiming broadly that "Plaintiff's attempted monopolization of the propanil market and restraints of trade therein are continuing violations leading to continuing liability and damages and not the result of a single, final act from which all subsequent damages flow." Defendants' Memorandum in Opposition to Plaintiff's Motion Under Rules 12 and 56 FRCP at 51. Inferentially, defendants rely on each of the specific allegations contained in their counterclaims filed in April 1981. After careful consideration, the

Court concludes that Rohm and Haas' assertion of the statute of limitations defense lacks merit in light of the continuing violation theory alleged by defendants in their counterclaim. Without considering the merits of defendants' counterclaims, a review of Crystal's and Eller's counterclaims reveals a course of activity, or at least the effects of such activity, which have continued from at least the time of the issuance of the Wilson patent. Consequently, the Court is unable to conclude that Eller's and ARGE's counterclaims are barred by the statute of limitations. Since only Crystal is entitled to the benefits accorded by the relation back doctrine, however, should defendant Eller prevail on his counterclaims he will be restricted to recovering only damages occurring within four years prior to the filing of his counterclaims.

2. *Defendants' Standing to Assert Their Antitrust Counterclaims*

Preliminarily, Rohm and Haas challenges Eller's standing to pursue the counterclaims which he has raised. Rohm and Haas challenges also ARGE's standing on the basis that it is an association.[21]

77. Section 4 of the Clayton Act, 15 U.S.C. § 15 (Supp. 1982), provides that

> Any person who shall be injured in his business or property by reason of anything forbidden in the antitrust laws may sue therefor in any district court of the United States in the district in which the defend-

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[21] Rohm and Haas has raised also the issue of Crystal's standing to pursue its counterclaims attacking the Bayer-Rohm and Haas agreements. Although Rohm and Haas has raised a challenge that appears to have merit, the Court has already heard the evidence in this cause and considered the merits of Crystal's counterclaim based on the Bayer-Rohm and Haas agreements. Accordingly, because of the inevitable disposition of this counterclaim, the Court will refrain from deciding the merits of Rohm and Haas' standing argument.

> ant resides or is found or has an agent, without respect to the amount in controversy, and shall recover threefold the damages by him sustained, and the costs of suit, including a reasonable attorney's fee.

See 2 P. Areeda & D. Turner, *Antitrust Law* § 334a (1978). A literal interpretation of this section would indicate that a person, no matter how remotely injured by any antitrust violation, could bring an antitrust action. Fortunately for defendants who have been accused of engaging in antitrust activity, courts have placed a restrictive gloss on this section in order to limit the range of potential antitrust plaintiffs. *Pan-Islamic Trade Corp. v. Exxon Corp.*, 632 F.2d 539, 546 (5th Cir. 1980), *cert. denied*, 454 U.S. 927, 102 S.Ct. 427, 70 L.Ed.2d 236 (1981); *Solinger v. A & M Records, Inc.*, 586 F.2d 1304, 1308 (9th Cir. 1978), *cert. denied*, 441 U.S. 908, 99 S.Ct. 1999, 60 L.Ed.2d 377 (1979). The Supreme Court has noted with approval that "[t]he lower courts have been virtually unanimous in concluding that Congress did not intend the antitrust laws to provide a remedy in damages for all injuries that might conceivably be traced to an antitrust violation." *Hawaii v. Standard Oil Co.*, 405 U.S. 251, 262 n. 14, 92 S.Ct. 885, 891 n. 14, 31 L.Ed.2d 184 (1972). Specifically, lower courts have required either that a plaintiff suffer some direct injury or that the plaintiff be within the target area of a defendant's violation.

78. In evaluating challenges to an antitrust complainant's standing, the Fifth Circuit has adopted the target area approach. *See Pan-Islamic Trade Corp. v. Exxon Corp.*, *supra*, at 546-47; *Associated Radio Service Co. v. Page Airways, Inc.*, 624 F.2d 1342, 1362 (5th Cir. 1980), *cert. denied*, 450 U.S. 1030, 101 S.Ct. 1740, 68 L.Ed.2d 226 (1981); *Donovan Const. Co. v. Florida Tel. Corp.*, 564 F.2d 1191 (5th Cir. 1977), *cert. denied*, 435 U.S. 1007, 98 S.Ct. 1878, 56 L.Ed.2d 389 (1978); *Southern Concrete Co. v. United States Steel Corp.*, 535 F.2d 313

(5th Cir. 1976), *cert. denied*, 429 U.S. 1096, 97 S.Ct. 1113, 51 L.Ed.2d 543 (1977); *Tugboat, Inc. v. Mobile Towing Co.*, 534 F.2d 1172 (5th Cir. 1976). As explained succinctly in *Jeffrey v. Southwestern Bell*, 518 F.2d 1129, 1131 (5th Cir. 1975).

> The 'target area' test arose as a means of limiting the class of potential treble-damages plaintiffs to those persons who could most adequately vindicate the purposes of the antitrust laws. To attain standing a person (whether corporation or individual) must be one against whom the conspiracy is aimed. Or, put in plutonomic terms, the complainant must show that he is within that sector of the economy which is endangered by a breakdown of competitive conditions in a particular industry.

79. The alleged antitrust activities contained in Eller's counterclaims were aimed at propanil manufacturers, distributors and other persons who could be considered competitors of Rohm and Haas. As a corporate officer and shareholder of several of plaintiff's direct competitors, such corporations having filed antitrust counterclaims of their own, the Court is of the opinion that Eller, with the exception of the counterclaim alleging an antitrust violation on the basis of the enforcement of a fraudulently obtained patent, is "located far from the target area." *Long Island Lighting Co. v. Standard Oil Co. of California*, 521 F.2d 1269, 1274 (2d Cir. 1975), *cert. denied*, 423 U.S. 1073, 96 S.Ct. 855, 47 L.Ed.2d 83 (1976); *Jeffrey v. Southwestern Bell, supra*, at 1131 ("Stockholders [and] employees . . . of an injured corporation . . . have been denied recovery because their injuries are far too 'indirect', 'secondary', or 'remote'."); *Deaktor v. Fox Grocery Co.*, 475 F.2d 1112, 1115 (3d Cir.), *cert. denied*, 414 U.S. 867, 94 S.Ct. 65, 38 L.Ed.2d 86 (1973); *Kauffman v. The Dreyfus Fund, Inc.*, 434 F.2d 727 (3d Cir. 1970), *cert. denied*, 401 U.S. 974, 91 S.Ct. 1190, 28 L.Ed.2d 323 (1971); *Walker Distributing Co. v. Lucky Lager Brew-*

ing Co., 323 F.2d 1 (9th Cir. 1963), *cert. denied*, 385 U.S. 976, 87 S.Ct. 507, 17 L.Ed.2d 438 (1966); *Volasco Prod. Co. v. Lloyd A. Fry Roofing Co.*, 308 F.2d 383 (6th Cir. 1962), *cert. denied*, 372 U.S. 907, 83 S.Ct. 721, 9 L.Ed.2d 717 (1963); *Martens v. Barrett*, 245 F.2d 844 (5th Cir. 1957); *Pocahontas Supreme Coal Co. v. National Mines Corp.*, 90 F.R.D. 67, 74 (S.D.N.Y. 1981). *See also* 2 P. Areeda and D. Turner, *Antitrust Law*, *supra*, ¶ 336d. In addition, Eller does not allege that he is a competitor of Rohm and Haas; indeed, during the trial of this cause Eller admitted to the contrary. Moreover, Eller has not pleaded in even a conclusory fashion that he has sustained any injury as a result of plaintiff's alleged antitrust activities. Eller has alleged that he has incurred the cost and expenses of defending this litigation. Such damages, however, are the result of Rohm and Haas' enforcement of its patent in this suit rather than the result of the allegedly illegal marketing or predatory practices engaged in by Rohm and Haas or the Bayer-Rohm and Haas agreements. Accordingly, the Court concludes that other than the counterclaim directed to the enforcement of Rohm and Haas' patent, Eller lacks standing to pursue the antitrust counterclaims which he has advanced.

80. Plaintiff has challenged also Eller's standing to pursue injunctive relief under section 16 of the Clayton Act, 15 U.S.C. § 26 (Supp. 1982). The Court's disposition of this particular standing issue is guided by different considerations from those discussed earlier. *Jeffrey v. Southwestern Bell*, *supra*, at 1132, discussed the distinction between the standing requirement under sections 4 and 16.

> Unlike § 4 of the Clayton Act, § 16 has no business or property requirement. 15 U.S.C. § 26. The complainant 'need only demonstrate a significant threat of injury from an impending violation of the antitrust laws or from a contemporary violation likely to

> continue or recur.' *Zenith Radio Corp. v. Hazeltine Research*, 395 U.S. 100, 130, 89 S.Ct. 1562, 1580, 23 L.Ed.2d 129, 152 (1969). Moreover, the remedies contained in the two sections are quite distinct. Section 16 carries none of the judgments or duplicative recoveries. *See Hawaii v. Standard Oil Co., supra* [405 U.S. 251, 92 S.Ct. 885, 31 L.Ed.2d 184]. Because of these differences, courts take a less constrained view of standing in suits involving injunctive relief than in those demanding treble damages. *In re Multidistrict Vehicle Air Pollution M.D.L. No. 31, supra* [481 F.2d 122 (9th Cir. 1973)]. To achieve standing under § 16 the petitioner must demonstrate that he is threatened with loss or injury proximately resulting from the antitrust violation. *Credit Bureau Reports, Inc. v. Retail Credit Co.*, 476 F.2d 989 (5th Cir. 1973).

The pivotal issue then is proximate cause, *i.e.*, the complainant must show that he is threatened with injury proximately caused by the alleged antitrust activity. *Universal Brands, Inc. v. Phillip Morris, Inc.*, 546 F.2d 30, 34 (5th Cir. 1977); *Tugboat, Inc. v. Mobile Towing Co., supra*, at 1174; *Jeffrey v. Southwestern Bell, supra.* However, if the damages sustained or threatened are "merely subordinate, incidental or indirect, or if the defendants' alleged antitrust acts are so distant from the injury as to be only remotely causative, plaintiff has not been injured 'by reason of anything forbidden in the antitrust laws' as contemplated by the Clayton Act." *Universal Brands, Inc. v. Phillip Morris, Inc., supra*, at 34, *citing, Dailey v. Quality School Plan, Inc.*, 380 F.2d 484, 487 (5th Cir. 1967).

81. For the same reasons delineated by the Court in concluding that Eller lacked standing to seek damages under the antitrust counterclaims which he has alleged, the Court concludes that Eller lacks standing to pursue injunctive relief under section 16. Eller is a corporate

officer and shareholder of the Crystal defendants who have filed a battery of counterclaims seeking injunctive and monetary relief. With the exception of his counterclaim directed at the enforcement of the Wilson patent which Eller alleges was procured fraudulently, Eller has not alleged nor has he proven that Rohm and Haas' alleged antitrust actions have caused him anything other than incidental or indirect injury or damage to his residual equity interest in the defendants.

82. Rohm and Haas argues basically that ARGE lacks standing to pursue its antitrust counterclaim because it is an association and it has not proven that it was assigned the rights of its membership. Generally, an association has no standing to assert federal antitrust claims in either its own right or in its representative capacity without an assignment of such rights by its membership. *Associated General Contractors v. Otter Tail Power Co.*, 611 F.2d 684, 687-91 (8th Cir. 1979); *Burleigh House Condominium, Inc. v. Buchwald*, 546 F.2d 57, 58 (5th Cir.), *cert. denied*, 433 U.S. 909, 97 S.Ct. 2975, 53 L.Ed.2d 1093 (1977); *Buckley Towers Condominium, Inc. v. Buchwald*, 533 F.2d 934 (5th Cir. 1976), *cert. denied*, 429 U.S. 1121, 97 S.Ct. 1157, 51 L.Ed.2d 571 (1977); *Pacific Coast Agricultural Export Ass'n v. Sunkist Growers, Inc.*, 526 F.2d 1196 (9th Cir. 1975), *cert. denied*, 425 U.S. 959, 96 S.Ct. 1741, 48 L.Ed.2d 204 (1976); *Louisiana Farmers' Protective Union, Inc. v. Great Atlantic & Pacific Tea Co.*, 131 F.2d 419, 423 (8th Cir. 1942); *Health Care Equalization Committee of the Iowa Chiropractic Soc'y v. Iowa Medical Soc'y*, 501 F.Supp. 970 (S.D. Iowa 1980); *Jefferson County Pharmaceutical Association, Inc. v. Abbott Laboratories*, No. 78-P-0870-S (N.D. Ala. December 1, 1978), *aff'd*, 656 F.2d 92 (5th Cir. 1981) (per curiam), *cert. granted*, 455 U.S. 999, 102 S.Ct. 1629, 71 L.Ed.2d 865 (1982).

Although there is some evidence indicating that ARGE was at one time an association, the record indicates and

indeed ARGE is described in the Admissions of Fact contained in the Joint Pretrial Order filed in this cause as a Louisiana corporation. Consequently, as corporations do not need to establish that they have been assigned the rights of their shareholders, the Court concludes that Rohm and Haas' argument that ARGE lacks standing is without support.

83. Rohm and Haas argues also that ARGE lacks standing since ARGE does not compete with Rohm and Haas. This assertion is premised on the testimony of a past president of ARGE, Barry Jeffrey, who stated that ARGE is a distributor rather than a manufacturer of propanil and thus does not compete with Rohm and Haas. The specific portions of Jeffrey's testimony relied upon by Rohm and Haas are as follows:

> Mr. Bove: Mr. Jeffrey, your counsel in this case has filed a proposed finding, set of proposed findings, one of which is number 69 and it reads as follows: Rohm and Haas, Vertac and Crystal were competitors since each manufactures propanil and makes it their distributors. ARGE however is not a manufacturer but a distributor and does not compete with Rohm and Haas. The only propanil it sold was made by Rohm and Haas and Crystal. And there is a sentence, "Rohm and Haas was therefore not damaged by sales to ARGE". Is that a true statement? Please excuse my marked copy.
>
> Mr. Jeffrey: It is true. I can't swear that, I just presume that everything in there is a fact.
>
> Mr. Bove: Is it true that ARGE is not a manufacturer but a distributor and does not compete with Rohm and Haas?
>
> Mr. Jeffrey: We're a distributor, that's correct. We do not manufacture.
>
> Mr. Bove: And you do not compete with Rohm and Haas? Is that true?

Mr. Conley: I think he is asking for a legal conclusion.

The Court: I'll listen to the answer. Is it correct?

Mr. Jeffrey: It is my understanding that Rohm and Haas manufactures and we are a distributor.

Mr. Bove: And you do not compete with Rohm and Haas, do you?

Mr. Jeffrey: To compete you would have to be a manufacturer.

Mr. Bove: So therefore you do not compete with Rohm and Haas?

Mr. Jeffrey: By that definition, that's correct.

After reviewing the cases cited by plaintiff which the Court finds inapposite, the Court is of the opinion the Plaintiff's standing argument is without merit. The antitrust counterclaim advanced by ARGE focuses on an allegedly illegal tying arrangement practiced by Rohm and Haas. The tied product is propanil, a product which ARGE purchased from manufacturers, including Rohm and Haas on past occasions, for resale to others. Consequently, if the alleged tying arrangement did exist and constitutes a violation of the antitrust laws, it restricted both the market for ARGE's propanil and the sources of its supply. Accordingly, the Court concludes that ARGE has standing to pursue its antitrust counterclaim on the basis of the allegedly illegal tying arrangement.

3. *The Bayer-Rohm and Haas Agreements—Subject Matter Jurisdiction*

84. Rohm and Haas contends first that this Court lacks subject matter jurisdiction over Crystal's counterclaims predicated on the Bayer-Rohm and Haas agreements as such agreements do not have a "substantial and foreseeable effect on the United States." The issue before the Court is distinct from the issue of whether the activity complained of is the type prohibited by the antitrust

laws. "The jurisdictional question . . . is whether defendants' conduct had a sufficient relationship to interstate commerce to be subject to regulation by Congress." *Gough v. Rossmoor Corp.*, 487 F.2d 373, 376 (9th Cir. 1973). *See also Berardinelli v. Castle & Cooke, Inc.*, 587 F.2d 37, 38 (9th Cir. 1978). "The substantive issue, on the other hand, is whether defendants participated in anticompetitive conduct of the kind encompassed within the statutory terms 'restraint of trade', 'monopolize', or 'attempt to monopolize'." *Gough v. Rossmoor Corp., supra*, at 376. *See also Berardinelli v. Castle & Cooke Inc., supra*, at 38.

85. The jurisprudence in this area has developed two broad tests to determine whether subject matter jurisdiction over a Sherman Act claim exists. "Activity is reachable by the Sherman Act if (1) it occurs 'in' or 'in the flow of' interstate commerce ('flow' theory) or (2) if it substantially affects interstate commerce ('effect' theory)." *Chatham Condominium Ass'ns v. Century Village, Inc.*, 597 F.2d 1002, 1008 (5th Cir. 1979). *See also McLain v. Real Estate Board of New Orleans, Inc.*, 444 U.S. 232, 242, 100 S.Ct. 502, 509, 62 L.Ed.2d 441 (1980); *Hospital Bldg. Co. v. Trustees of Rex Hospital*, 425 U.S. 738, 96 S.Ct. 1848, 48 L.Ed.2d 338 (1976); *United States v. American Bldg. Maintenance Indus.*, 422 U.S. 271, 95 S.Ct. 2150, 45 L.Ed.2d 177 (1975); *Gulf Oil Corp. v. Copp Paving Co.*, 419 U.S. 186, 95 S.Ct. 392, 42 L.Ed.2d 378 (1974); *Burke v. Ford*, 389 U.S. 320, 88 S.Ct. 443, 19 L.Ed.2d 554 (1967); *United States v. Cargo Serv. Stations, Inc.*, 657 F.2d 676, 679 (5th Cir. 1981), *cert. denied*, 455 U.S. 1017, 102 S.Ct. 1712, 72 L.Ed.2d 135 (1982). The "flow theory", better known as the "in commerce" test, looks to see if the relevant product market upon which the substantive claims have impinged is interstate in its geographic aspect. If the relevant product market is not itself interstate in its geographic aspect subject matter jurisdiction may still be present. In such a case, the court's inquiry shifts to a determination whether "the restraint in question 'substantially and ad-

versely affects interstate commerce'." *Hospital Bldg. Co. v. Trustee of Rex Hosp., supra*, 425 U.S. at 743, 96 S.Ct. at 1851. *See also Industrial Inv. Develop. v. Mitsui & Co.*, 671 F.2d 876, 883 (5th Cir. 1982).

86. The reach of the Sherman Act and the concomitant jurisdiction of federal courts includes "restraints on goods . . . in the flow of foreign commerce, or restraints that affect the flow of goods . . . that are imported into or exported from the United States. . . ." 1 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, § 5.01, at 5-2. "A conspiracy to monopolize or restrain the domestic or foreign commerce of the United States is not outside the reach of the Sherman Act just because part of the conduct complained of occurs in foreign countries." *Continental Ore Co. v. Union Carbide and Carbon Co.*, 370 U.S. 690, 704, 82 S.Ct. 1404, 1413, 8 L.Ed.2d 777 (1969). *See also Industrial Inv. Develop. Corp. v. Mitsui & Co.*, 594 F.2d 48, 52 (5th Cir. 1979) *cert. denied*, 445 U.S. 903, 100 S.Ct. 1078, 63 L.Ed.2d 318 (1980). Not all challenged activity falls within the ambit of the Sherman Act, however; rather, the extent and nature of the effect of the activity on United States' commerce must be examined before jurisdiction will be sustained. In this Circuit, monopolistic activities or restraints "that directly or substantially affects the flow of commerce into or out of the United States is within the scope of the Sherman Act." *Industrial Inv. Develop. v. Mitsui & Co., supra*, at 883. *See generally* 1 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, § 5.02[2][c].

87. Defendants contend that the Court has subject matter jurisdiction over their antitrust counterclaims as the Bayer-Rohm and Haas "agreements resulted in curtailment of exports of propanil from the United States to foreign countries affected by those agreements." Specifically, defendants assert that their attempts to sell propanil in Costa Rica and Swaziland have been in-

hibited as a result of the allegedly illegal agreement. The participation of an American corporation in an agreement which inhibits another American corporation from competing in foreign markets has a direct and substantial effect on the flow of commerce out of the United States. *See, e.g., Continental Ore Co. v. Union Carbide and Carbon Co., supra; Timken Roller Bearing Co. v. United States,* 341 U.S. 593, 71 S.Ct. 971, 95 L.Ed. 1199 (1951); *Pacific Coast Agricultural Export Ass'n v. Sunkist Growers, Inc., supra; United States v. United States Alkali Export Ass'n, Inc.,* 86 F.Supp. 59, 66 (S.D. N.Y. 1949); *United States v. National Lead Co.,* 63 F. Supp. 513, 523 (S.D.N.Y. 1945), *aff'd,* 332 U.S. 319, 67 S.Ct. 1634, 91 L.Ed. 2077 (1947). *See also* 1 P. Areeda & D. Turner, *Antitrust Law, supra,* at ¶ 236. Consequently, the Court concludes that it has subject matter jurisdiction over defendants' counterclaim.

4. *Act of State Doctrine*

88. Rohm and Haas has raised also the act of state doctrine in an attempt to defeat Crystal's counterclaim predicated upon the Bayer-Rohm and Haas agreements. Rohm and Haas points out that as Crystal's counterclaim is grounded, in part, upon their contention that many of the foreign patents licensed under the Rohm and Haas-Bayer agreements, including Rohm and Haas' Costa Rican patent, would have been declared invalid but for the agreements, this Court must examine the acts of many foreign sovereigns and necessarily adjudicate both the validity of the Bayer-Rohm and Haas agreements dealing solely with foreign patents and the validity of the foreign patents themselves. Rohm and Haas asserts further that Crystal's counterclaim is based also on allegations that Rohm and Haas' Costa Rican patent is invalid and that the Costa Rican government's seizure and the Costa Rican infringement suit against Crystal Chemical De Costa Rica evidence Rohm and

Haas' attempt to monopolize the world market in propanil. An adjudication of these allegations, Rohm and Haas complains, would interfere also with a lawsuit pending presently in Costa Rica and would conflict with Costa Rican law and policies. After careful consideration, the Court is of the opinion that the heart of defendants' counterclaim involving the Bayer-Rohm and Haas agreements does not raise the issue of validity of the foreign patents. Rather, the Court is of the opinion that the essential issue is whether such agreements are violative of the antitrust laws. Nevertheless, in an effort to ensure completeness, the Court will review the applicability of the act of state doctrine in this case.

It is well settled that "[A] district court should not apply the antitrust laws to foreign conduct or foreign actors if such application would violate principles of comity, conflicts of law or international law." *Industrial Inv. Develop. Corp. v. Mitsui & Co., supra,* at 884. *See generally* 1 J. Von Kalinowski, *Antitrust Law and Trade Regulation* § 5.03-.04. "The act of state doctrine . . . is an example of a principle of comity which, when applicable, prevents the Court from entertaining a claim." *Industrial Inv. Develop. Corp. v. Mitsui & Co., supra,* at 884.

89. The act of state doctrine provides that "[e]very sovereign state is bound to respect the independence of every other sovereign state, and the courts of one country will not sit in judgment on the acts of the government of another done with in its own territory." *Underhill v. Hernandez,* 168 U.S. 250, 252, 18 S.Ct. 83, 84, 42 L.Ed. 456 (1897). *See also Banco Nacional de Cuba v. Sabbatino,* 376 U.S. 398, 416-27, 84 S.Ct. 923, 934-39, 11 L.Ed.2d 804 (1963). The rationale behind the doctrine has been explained as follows:

> Relegating grievances from acts of this sort to executive channels of international diplomacy, the rule is an embodiment of the deference to be accorded

> the sovereignty of other nations; it averts potential diplomatic embarrassment from the courts of one sovereign sitting in judgment over the public acts of another.

Arango v. Guzman Travel Advisors Corp., 621 F.2d 1371, 1380 (5th Cir. 1980); *Alfred Dunhill of London, Inc. v. Republic of Cuba*, 425 U.S. 682, 697, 96 S.Ct. 1854, 1862, 48 L.Ed.2d 301 (1976); *Underhill v. Hernandez*, *supra*, 168 U.S. at 252, 18 S.Ct. at 84. Hence a court sitting in the United States cannot entertain any action that calls into question the validity or propriety of conduct or policies of a foreign government acting within its sovereignty. The degree of foreign government involvement which must be present before the act of state doctrine can be invoked varies with the circumstances of each case. *Industrial Inv. Develop. Corp. v. Mitsui*, *supra*, at 52. *See, e.g., Alfred Dunhill of London, Inc. v. Republic of Cuba, supra*; *Banco Nacional de Cuba v. Sabbatino, supra*; *Oetjen v. Central Leather Co.*, 246 U.S. 297, 38 S.Ct. 309, 62 L.Ed. 726 (1918); *Underhill v. Hernandez, supra*; *Hunt v. Mobil Oil Corp.*, 550 F.2d 68 (2d Cir.), *cert. denied*, 434 U.S. 984, 98 S.Ct. 608, 54 L.Ed.2d 477 (1977).

90. As the Court recognized earlier, defendants' antitrust counterclaims do not urge an inquiry into the actions of foreign governments in granting patent protection to either Rohm and Haas or Bayer. Rather, defendants attack alleged agreements between Bayer and Rohm and Haas to monopolize the world-wide propanil market, agreements which no foreign government has sanctioned or become a party thereto. Consequently, the Court finds no merit to Rohm and Haas' assertion of the act of state doctrine.

Having disposed of the welter of preliminary issues raised by Rohm and Haas, the Court focuses its attention on the merits of defendants' counterclaims.

5. *Defendants' Section 1 Counterclaims*

91. Section 1 of the Sherman Act has been construed as prohibiting contracts, conspiracies, or combinations that "unreasonably" restrain trade. *Standard Oil Co. v. United States*, 221 U.S. 1, 31 S.Ct. 502, 55 L.Ed. 619 (1911); *Chicago Board of Trade v. United States*, 246 U.S. 231, 38 S.Ct. 242, 62 L.Ed. 683 (1918). Consequently, a violation of section 1 requires that defendants show that a conspiracy, contract or combination exists and that such conspiracy, contract or combination unreasonably restrains trade. *Standard Oil Co. v. United States, supra*; *Chicago Board of Trade v. United States, supra*; *Almeda Mall, Inc. v. Houston Lighting & Power Co.*, 615 F.2d 343, 350 (5th Cir.), *cert. denied*, 449 U.S. 870, 101 S.Ct. 208, 66 L.Ed.2d 90 (1980).

92. As section 1 defines, antitrust allegations are measured by the reasonableness or "rule of reason" standard. The Supreme Court has determined, however, that certain agreements are so pernicious to competition that they are *per se* unreasonable:

> there are certain agreements or practices which because of their pernicious effect on competition and lack of any redeeming virtue are conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use. This principle of per se unreasonableness not only makes the type of restraints which are proscribed by the Sherman Act more certain to the benefit of everyone concerned, but it also avoids the necessity for an incredibly complicated and prolonged economic investigation into the entire history of the industry involved, as well as related industries, in an effort to determine at large whether a particular restraint has been unreasonable—an inquiry so often wholly fruitless when undertaken.

Northern P. Ry. Co. v. United States, 356 U.S. 1, 5, 78 S.Ct. 514, 518, 2 L.Ed.2d 545 (1958). *See also Catalono, Inc. v. Target Sales, Inc.*, 446 U.S. 643, 100 S.Ct. 1925, 64 L.Ed.2d 580 (1980); *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1, 99 S.Ct. 1551, 60 L.Ed.2d 1 (1979); *Sports Center, Inc. v. Riddell, Inc.*, 673 F.2d 786, 790 (5th Cir. 1982). Examples of practices that have been found *per se* unreasonable are agreements to eliminate credit which amounted to price fixing, *Catalono, Inc. v. Target Sales, Inc., supra*; an agreement among engineers not to discuss prices with customers until an engineer had been selected; *National Soc'y of Professional Eng'rs v. United States*, 435 U.S. 679, 98 S.Ct. 1355, 55 L.Ed.2d 637 (1978); horizontal market division among competitors, *United States v. Topco Assocs. Inc.*, 405 U.S. 596, 92 S.Ct. 1126, 31 L. Ed.2d 515 (1972); vertical price fixing, *Albrecht v. Herald Co.*, 390 U.S. 145, 88 S.Ct. 869, 19 L.Ed.2d 998 (1968); and group boycotts. *Klor's Inc. v. Broadway-Hale Stores, Inc.*, 359 U.S. 207, 79 S.Ct. 705, 3 L.Ed.2d 741 (1959). Tying arrangements have also been found to be per se unreasonable. Tying arrangements "are unreasonable in and of themselves whenever a party has sufficient economic power with respect to the tying product to appreciably restrain free competition in the market for the tied product and a 'not insubstantial' amount of interstate commerce is affected." *Northern P. Ry. Co. v. United States, supra*, 356 U.S. at 6, 78 S.Ct. at 518. *See also Fortner Enter, Inc. v. United States Steel Corp.*, 394 U.S. 495, 498-99, 89 S.Ct. 1252, 1256, 22 L.Ed.2d 495 (1969); *Times-Picayune Publishing Co. v. United States*, 345 U.S. 594, 605-06, 73 S.Ct. 872, 878-79, 97 L.Ed.2d 1277 (1953); *Standard Oil Co. v. United States, supra*, 337 U.S. 293, 306, 69 S.Ct. 1051, 1058, 93 L.Ed. 1371. The rationale for the rule that tying arrangements are *per se* unreasonable is that tie-ins "deny competitors free access to the market for the tied product, not because the party imposing the tying requirements

has a better product or a lower price but because of his power or leverage in another market. At the same time buyers are forced to forego their free choice between competing products." *Fortner Enter. v. United States Steel Corp., supra,* 394 U.S. at 498-99, 89 S.Ct. at 1256.

93. The classical definition of a tie-in is "an agreement by a party to sell one product but only on the condition that the buyer also purchases a different (or tied) product, or at least agrees that he will not purchase that product from any other supplier." *Northern P. Ry. Co. v. United States, supra,* 356 U.S. at 5-6, 78 S.Ct. at 518. *See also Kaiser Aluminum & Chem. Sales Inc. v. Avondale Shipyards, Inc., supra,* at 1049 n. 5; *see generally* P. Areeda & D. Turner, *Antitrust Law, supra,* at ¶ 733. In other words, there must be some form of coercion present. *See Times-Picayune Publishing Co. v. United States, supra,* 345 U.S. at 605, 73 S.Ct. at 878; *Sobrato v. Prudential Ins. Co. of America,* 632 F.2d 786, 787 (9th Cir. 1980); *Ogden Food Serv. Corp. v. Mitchell,* 614 F.2d 1001, 1002 (5th Cir. 1980); *Response of Carolina, Inc. v. Leasco Response, Inc.,* 537 F.2d 1307, 1327 (5th Cir. 1976). *See generally* Bauer, *A Simplified Approach to Tying Arrangements: A Legal and Economic Analysis,* 33 Vanderbilt L.Rev. 283 (1980); Varner, *Voluntary Ties and the Sherman Act,* 50 S.Cal.L.Rev. 271 (1977); Austin, *The Individual Coercion Doctrine in Tie-In Analysis: Confusing and Irrelevant,* 65 Cal.L. Rev. 1143 (1977). A purchaser must be informed that he will not get the tying product unless he purchases the tied product. "Of course, where the buyer is free to take either product by itself there is no tying problem even though the seller may also offer the two items as a unit at a single price." *Id.,* at 6 n. 4. In this case, defendants assert that the tying product is the patent in suit and the tied product is propanil. Simply stated, defendants' assert that Rohm and Haas conditioned the license of its patent on the purchase of propanil manufactured by Rohm and Haas.

There are four key elements of a tie-in arrangement: "(1) two separate products, the tying product and the tied product; (2) sufficient market power in the tying market to coerce purchase of the tied product; (3) involvement of a not insubstantial amount of interstate commerce in the tied market; and (4) anticompetitive effects in the tied market." *Bob Maxfield, Inc. v. American Motors Corp.*, 637 F.2d 1033, 1037 (5th Cir.), *cert. denied*, 454 U.S. 860, 102 S.Ct. 315, 70 L.Ed.2d 158 (1981). *See also Fortner Enter. v. United States Steel Corp.*, *supra*, 394 U.S. at 499, 89 S.Ct. at 1256; *Northern P. Ry. Co. v. United States*, *supra*, 356 U.S. at 6, 78 S.Ct. at 518; *Kaiser Aluminum & Chemical Sales, Inc. v. Avondale Shipyards, Inc.*, *supra*, at 1048 n. 5; *Driskill v. Dallas Cowboys Football Club, Inc.*, 498 F.2d 321, 323 (5th Cir. 1974).

95. The Court rejects defendants' contentions that Rohm and Haas' refusal to license constitutes an illegal tying arrangement. Although a "patentee who sells [or licenses] the patented items only in conjunction with some other unpatented staple good raises serious suspicions of tying behavior," *Rex Chainbelt Inc. v. Harco Products, Inc.*, 512 F.2d 993, 1002-03 (9th Cir.), *cert. denied*, 423 U.S. 821, 96 S.Ct. 52, 46 L.Ed.2d 49 (1975); *see also United States v. Loew's Inc.*, 371 U.S. 38, 46, 83 S.Ct. 97, 102, 9 L.Ed.2d 11 (1962); *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488, 491, 62 S.Ct. 402, 404, 86 L.Ed. 363 (1942); *W.L. Gore & Assocs., Inc. v. Carlisle Corp.*, 529 F.2d 614, 624 (3d Cir. 1976), the Court is of the opinion that a patentee's conduct in refusing to license or sell its patent, except in conjunction with the purchase of an unpatented nonstaple product that is a material component of the patentee's patented process, does not constitute an unlawful tying arrangement or otherwise constitute an illegal restraint in violation of section 1 or section 2 of the Sherman Act. While defendants have proven that plaintiff engaged in activity which apparently satisfies the textbook definition

of an illegal tying arrangement, the rather unique circumstances involved in the instant cause require further inquiry, rather than a wooden conclusion that plaintiff's licensing practice is *per se* violative of the Sherman Act.

Though confronted with a different set of facts, the court in *United States v. Jerrold Elecs. Corp.*, 187 F. Supp. 545, 556 (E.D. Pa. 1960), *aff'd*, 365 U.S. 567, 81 S.Ct. 755 L.Ed.2d 806 (1961), recognized the elasticity of the *per se* rule:

> Any judicially, as opposed to legislatively, declared *per se* rule is not conclusively binding on this court as to any set of facts not basically the same as those in the cases in which the rule was applied. In laying down such a rule, a court would be, in effect, stating that in all the possible situations it can think of, it is unable to see any redeeming virtue in tying arrangements which would make them reasonable. The Supreme Court of the United States did not purport in the Northern Pacific case to anticipate all of the possible circumstances used. Therefore, while the *per se* rule should be followed in almost all cases, the court must always be conscious of the fact that a case might arise in which the facts indicate that an injustice would be done by blindly accepting the *per se* rule.

96. As the result of considerable effort and expense, Rohm and Haas possesses a patent on the method or process of using propanil as a selective, post-emergent herbicide. This patent grants to Rohm and Haas a monopoly for a certain term of years on the use of the patented process. Rohm and Haas as patentee, is also accorded additional rights which have been summarized as follows:

> the right to exclude others from profiting from the patented invention. *Zenith Radio Corp. v. Hazeltine*

> *Research Inc.*, 395 U.S. 100, 135, 89 S.Ct. 1562 [1582], 23 L.Ed.2d 129 (1969); *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 424-25, 28 S.Ct. 748, 753-54, 52 L.Ed. 1122 (1908). This includes the right to suppress the invention while continuing to prevent all others from using it, *Continental Paper Bag Co., supra*, to license others or to refuse to license, and to charge such royalty as the leverage of the patent monopoly permits. *See Brulotte v. Thys Co.*, 379 U.S. 29, 33, 85 S.Ct. 176, 179, 13 L.Ed.2d 99 (1964) (dictum); *W.L. Gore & Assoc. v. Carlisle Corp.*, 529 F.2d 614, 622-23 (3d Cir. 1976) . . . [and the right to] grant one exclusive license or . . . many licenses. *See E. Bement & Sons v. National Harrow Co.*, 186 U.S. 70, 22 S.Ct. 747, 46 L.Ed. 1058 (1902); *United States v. Westinghouse Elec. Co.*, 648 F.2d 642 (9th Cir. 1981).

United States v. Studiengesellschaft Kohle, m.b.H., 216 U.S.App.D.C. 303, 670 F.2d 1122, 1127 (1981). In addition, as the Supreme Court held earlier in this case, a patentee has the right to control nonstaple goods that are capable only of infringing use in a patented invention. *Dawson Chemical Co. v. Rohm and Haas Co., supra*, 448 U.S. at 213-14, 100 S.Ct. at 2621-22. *See also Robintech, Inc. v. Chemidus Wavin, Ltd.*, 202 U.S.App. D.C. 142, 628 F.2d 142, 148-49 (1980). Such a right afforded by the patent laws necessarily extends into the antitrust arena. The Court believes that it would be superfluous to sanction and protect activity within one area of the law and concurrently prohibit and expose a patentee to damages by reason of another body of law. Certainly, there exist competing interests in the patent and antitrust areas. As recognized by the Supreme Court, however, "Congress' enactment of § 271(d) resolved those issues in favor of a broader scope of patent protection." *Id.*, at 223. Were the Court to reach any other result and conclude that patentees in the position

of Rohm and Haas could not, by reason of the antitrust laws, adopt a licensing policy such as Rohm and Haas follows here, it would subject patentees to the same problems that section 271(d) was designed to prevent:

> the rewards available to those willing to undergo the time, expense, and interim frustration of such practical research would provide at best a dubious incentive. Others could await the results of the testing and then jump on the profit bandwagon by demanding licenses to sell the unpatented, nonstaple chemical used in the newly developed process. Refusal to accede to such a demand, if accompanied by any attempt to profit from the invention through sale of the unpatented chemical, would risk forfeiture of any patent protection whatsoever on a finding of patent misuse. As a result, noninventors would be almost assured of an opportunity to share in the spoils, even though they had contributed nothing to the discovery. The incentive to await the discoveries of others might well prove sweeter than the incentive to take the initiative oneself.

Dawson Chemical Co. v. Rohm and Haas Co., supra, 448 U.S. at 222, 100 S.Ct. at 2626.

97. Although plaintiff has not raised specifically the defense in its briefs, the Court is of the opinion that the Court's conclusion is also supported by the defense of business justification. Tying arrangements which appear at first blush as illegal may in reality be lawful if the defendant has a legitimate business reason for imposing the condition. *Carpa, Inc. v. Ward Foods, Inc.*, 536 F.2d 39, 46 (5th Cir. 1976). Reasons which have been recognized as legitimizing an otherwise illegal tying arrangement are those necessary "in order to preserve good will when the seller's tying product works satisfactorily only in conjunction with another product made by the seller." *Advance Business Sys. & Supply Co. v. SCM Corp.*, 415 F.2d 55, 68 n.11 (4th Cir. 1969), *cert. denied*, 397 U.S.

920, 90 S.Ct. 928, 25 L.Ed.2d 101 (1970); *see also Standard Oil Co. of California & Standard Stations v. United States*, 337 U.S. 293, 306, 69 S.Ct. 1051, 1058, 93 L.Ed. 1371 (1949); *Carpa, Inc. v. Ward Foods, Inc., supra*, at 46-47; *Dehydrating Process Co. v. A.O. Smith Corp.*, 292 F.2d 653 (1st Cir.), *cert. denied*, 368 U.S. 931, 82 S.Ct. 368, 7 L.Ed.2d 194 (1961); "or to protect a new business." *Advance Business Sys. & Supply Co. v. SCM Corp., supra*, at 68 n.11. *White Motor Co. v. United States*, 372 U.S. 253, 263, 83 S.Ct. 696, 702, 9 L.Ed.2d 738 (1963); *Carpa, Inc. v. Ward Foods, Inc., supra*, at 47; *United States v. Jerrold Elecs. Corp., supra*, at 556-58. Although not within one of the two aforestated exceptions which the Court does not consider exclusive, the Court is of the view that the premise behind Rohm and Haas' licensing policy, the preservation of the integrity of its patent and the desire to commercially exploit its patent, is a legitimate business reason justifying the conditioning of the licensing of its patent to the purchase of an integral component of its patent, propanil.

98. Defendants' section 1 counterclaims are premised also on their contention that the enforcement of Rohm and Haas' fraudulently obtained patent constitutes an unreasonable restraint of trade. In *Walker Process Equip., Inc. v. Food Mach. and Chem. Corp.*, 382 U.S. 172, 177, 86 S.Ct. 347, 350, 15 L.Ed.2d 247 (1965), the Supreme Court held that "the enforcement of a patent procured by fraud on the Patent Office may be violative of § 2 of the Sherman Act provided the other elements necessary to a section 2 case are present. In such event the treble damage provisions of section 4 of the Clayton Act would be available to an injured party." *Id.* at 174, 86 S.Ct. at 348. *See also United States v. Westinghouse Elec. Corp.*, 648 F.2d 642, 647 (9th Cir. 1981); *Mayview Corp. v. Rodstein*, 620 F.2d 1347, 1355-56 (9th Cir. 1980); *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 428 F.2d 555, 566 (5th Cir. 1970), *cert. denied*, 400 U.S. 956, 91 S.Ct.

353, 27 L.Ed.2d 264 (1970). The Supreme Court stressed, however, that not every form of fraud was actionable. Rather, it is essential that the complainant prove that the patent was procured by intentional fraud, *i.e.*, fraud consisting of knowing and willful misrepresentations of material fact, *Walker Process Equip., Inc. v. Food Mach. & Chem. Co., supra,* 382 U.S. at 176, 86 S.Ct. at 349, as opposed to technical fraud or honest mistake. *Id.*, at 179-80, 86 S.Ct. at 351. *See also United States v. Westinghouse Elec. Corp., supra,* at 647; *Mayview Corp. v. Rodstein, supra,* at 1355-56; *Beckman Instruments, Inc. v. Chemtronics, Inc., supra,* at 556.

99. Although *Walker Process Equip., Inc. v. Food Mach. and Chem. Corp., supra,* involved the issue of whether the enforcement of a fraudulently obtained patent could constitute the basis for the imposition of liability under section 2 of the Sherman Act, the Court knows of no reason why the enforcement of a fraudulently procured patent could not also provide the basis for a claim under section 1 of the Sherman Act provided defendants can establish also the essential elements of a section 1 claim. As concluded earlier by the Court, however, the credible evidence in the record indicates that the patent in suit was not obtained through fraud; rather such patent was obtained in good faith and after a full disclosure. Refer to Conclusion 33. Consequently, defendants have failed to establish an essential element of their counterclaim. *See Walker Process Equip., Inc. v. Food Mach. and Chem. Corp., supra,* 382 U.S. at 177, 86 S.Ct. at 350 ("[G]ood faith [will] furnish a complete defense. This includes an honest mistake . . . so-called 'technical fraud'.")

6. *Defendants' Monopolization Counterclaims*

100. Section 2 of the Sherman Act, 15 U.S.C. § 2 (Supp. 1982), proscribes monopolization of any part of the trade or commerce among the several states. A com-

pleted monopoly offense under section 2 has two elements: "capacity and deliberateness. The section 2 plaintiff must demonstrate '(1) the possession of monopoly power in the relevant market, and (2) the willful acquisition of maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.'" *Dimmitt Agri Indus., Inc. v. CPC Int'l Inc.*, 679 F.2d 516, 525 (5th Cir. 1982), *citing*, *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71, 86 S.Ct. 1698, 1703-04, 16 L.Ed.2d 778 (1966); *see also In re Municipal Bond Reporting Antitrust Litigation*, 672 F.2d 436, 441 (5th Cir. 1982). *See generally* 3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, at § 9.01; L. Sullivan, *Handbook of the Law of Antitrust* § 7, at 29-30 (1970). In order to prove an attempt offense under section 2, the proponent of the claim must establish two elements: (1) specific intent to accomplish the illegal result; and (2) a dangerous probability that the attempt will be successful. *Spectrofuge Corp. v. Beckman Instruments, Inc*, 575 F.2d 256, 276 (5th Cir. 1978), *cert. denied*, 440 U.S. 939, 99 S.Ct. 1289, 59 L.Ed.2d 499 (1979). *See also Dimmitt Agri Indus., Inc. v. CPC Int'l Inc., supra*, at 525.

101. The burden of establishing a claim under section 2 rests with the party asserting the claim. "To succeed in claiming monopolization, a [plaintiff] must show that the defendant has achieved a monopoly, or, for attempt, demonstrate a 'dangerous probability of success.'" *In re Municipal Bond Reporting Antitrust Litigation, supra*, at 441, *citing*, *H & B Equip. Co., Inc. v. International Harvester Co.*, 577 F.2d 239, 242 (5th Cir. 1978). *See also Dimmitt Agri Indus., Inc. v. CPC Int'l Inc., supra*, at 525.

102. Monopoly power in the context of this cause is "the power to control price or exclude competition," *United States v. Grinnell Corp., supra*, 384 U.S. at 571, 86 S.Ct. at 1704; *United States v. E.I. duPont de Nemours & Co.*, 351 U.S. 377, 391, 76 S.Ct. 994, 1005,

100 L.Ed. 1264 (1956); *Dimmitt Agri Indus., Inc. v. CPC Int'l Inc., supra,* at 525, and such power is measured against the relevant market. *In re Municipal Bond Reporting Antitrust Litigation, supra,* at 41. *See also Continental T.V., Inc. v. GTE Sylvania, Inc.,* 433 U.S. 36, 53 n.21, 97 S.Ct. 2549, 2559 n.21, 53 L.Ed.2d 568 (1977) ("An antitrust policy divorced from market considerations would lack any effective benchmark"); *Spectrofuge Corp. v. Beckman Instruments, Inc., supra,* at 276. *See Heatransfer Corp. v. Volkswagenwerk, A.G.,* 553 F.2d 964 (5th Cir. 1977), *cert. denied,* 434 U.S. 1087, 98 S.Ct. 1282, 55 L.Ed.2d 792 (1978); *Yoder Bros., Inc. v. California-Florida Plant Corp.,* 537 F.2d 1347 (5th Cir. 1976), *cert. denied,* 429 U.S. 1094, 97 S.Ct. 1108, 51 L.Ed.2d 540 (1977); *Sulmeyer v. Coca Cola Co.,* 515 F.2d 835 (5th Cir. 1975), *cert. denied,* 424 U.S. 934, 96 S.Ct. 1148, 47 L.Ed.2d 341 (1976). The importance of defining the relevant markets before addressing the legality of plaintiff's actions cannot be over-emphasized. "The [C]ourt must measure the [plaintiff's] position within a defined market since, obviously, the existence or absence of monopoly power cannot be determined in a vacuum." 3 J. Von Kalinowski, *Antitrust Law and Trade Regulation, supra,* § 8.02[2], at 8-12—8-13 (footnote omitted). Hence, an initial determination regarding defendants' section 2 claim involves identifying and defining the relevant market which is composed of a product and a geographic market. *In re Municipal Bond Reporting Antitrust Litigation, supra,* at 441.

103. The burden of establishing the relevant product and geographic market falls upon the defendants. *See Almeda Mall, Inc. v. Houston Lighting & Power Co., supra,* at 351; *Dougherty v. Continental Oil Co., supra,* 579 F.2d 954, 963 (5th Cir. 1978). In the instant cause, defendants contend that the product market upon which the Court's inquiry must focus is the market for propanil, "a product for which there is no suitable alternative,

price, use and quantities considered." Defendants' Proposed Conclusion of Law 68. Rohm and Haas finds fault with defendants' proposed definition of the product market and asserts that as propanil is only one of many rice herbicides, the relevant product market is the rice herbicide market.

The relevant product market is generally defined to be that area of goods or services in which the product or products offered by the defendant, in this case the plaintiff, effectively compete. 3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, § 8.02[2], at 8-15—8-16 (footnote omitted); *see also Dougherty v. Continental Oil Co., supra*, at 963 n.4 ("the relevant product market is composed of products that have reasonable interchangeability for the purposes for which they were produced—price, use and qualities considered.") It is of importance in applying the definition set forth above to the facts of a particular case that the definition must be broad enough to include all substitutes yet narrow enough to exclude nonsubstitutes. As was recognized by the Supreme Court:

> For every product, substitutes exist. But a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose 'cross-elasticities of demand' are small. Useful to that determination is, among other things, the trade's own characterization of the products involved.

Times-Picayune Publishing Co. v. United States, supra, at 612 n.31.

104. Two different tests have been developed to assist the court in determining whether particular products are competitive with one another: (1) cross elasticity of demand, and (2) reasonable interchangeability of use. *United States v. E.I. du Pont de Nemours & Co., supra*;

see also 3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra,* at § 8.02[2].

In determining the presence of substitutes which are reasonably interchangeable, two factors are emphasized: (1) the use or uses of the product and the substitutes, and (2) the physical characteristics of the product and the substitutes.

> If the substitutes have essentially the same end uses as the product, they are deemed to be interchangeable with each other and may, therefore, be included in the same product market. Similarly, if the physical characteristics of the substitutes are essentially the same as those of the product, so that customers may practicably switch from one commodity to another, they are part of the same market.

3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra,* § 8.02[2], at 8-18—8-18.1. On the other hand, the critical factor in the cross-elasticity test is the price, i.e., the responsiveness of the consumer to price change among products is indicative of the cross-elasticity of demand between the products. *In re Municipal Bond Reporting Antitrust Litigation, supra,* at 442 n. 8. *Spectrofuge Corp v. Beckman Instruments, Inc., supra,* at 277 n. 75. For example,

> if a slight decrease in the price of one commodity causes a considerable number of customers of similar commodities to switch to the commodity whose price has been decreased, it would be a strong indication that a high cross-elasticity of demand exists between them; that the products compete in the same market.

3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra,* at § 8.02[2], at 8-18.1—8-18.2 (footnotes omitted).

105. After reviewing carefully the record before it, the Court reaches the conclusion in the case *sub judice,*

but not without considerable difficulty, that the relevant product market is the propanil market. Although there are other herbicides used in the rice industry, *e.g.*, Ronstar, Bolero, Machete, Prowl, Modown, Ordram, and various phenoxies such as 2,4-D and 2,4,5-T, it is undisputed that propanil's essential function is to kill weeds, particularly barnyard grass, growing in rice. It decreases the cost of growing rice while increasing the yield per acre. Although the aforenamed herbicides perform the same function as propanil, there are differences between propanil and these other herbicides which relate to the timing of application, cultural practices and the type of weeds which the various herbicides control. Refer to Findings 41, 42, 185, 186. Despite the presence of these other herbicides in the market place, propanil remains the herbicide of choice of rice farmers, and no other herbicide or herbicide combination has supplanted propanil. Refer to Finding 186. Consequently, the Court is of the opinion that no herbicidal substitutes exist which are reasonably interchangeable with propanil.

The record in this case discloses further that although propanil possesses characteristics that no other single herbicide on the market possesses, if the price of propanil were raised to a high level, such level having been described by one witness as a level at which the cost of propanil exceeds the rice farmers' return, rice farmers would likely switch to an alternative herbicide rather than pay such a price. Refer to Finding 187. Thus, it would appear that there is some, although not a high, cross-elasticity of demand which exists between propanil and the other rice herbicides mentioned previously. The Court concludes, however, that the degree of cross-elasticity that does exist does not support the expansive definition of the product market urged by plaintiff. Having defined the relevant product market, the Court now turns its attention to defining the relevant geographic market.

106. The relevant geographic market is broadly defined as the area of effective competition within which the

seller operates and to which the purchaser can practically turn for supplies. *See Otter Tail Power Co. v. United States*, 410 U.S. 366, 369 n.1, 93 S.Ct. 1022, 1025 n.1, 35 L.Ed.2d 359 (1973); *Tampa Elec. Co. v. Nashville Coal Co.*, 365 U.S. 320, 327-28, 81 S.Ct. 623, 627-28, 5 L.Ed.2d 580 (1961). *Morton Bldgs. of Nebraska, Inc. v. Morton Bldgs., Inc.*, 531 F.2d 910, 918 (8th Cir. 1976); *see also* 3 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, § 80.2[2], at 8-25.

107. A review by this Court of the briefs submitted by defendants reveals that the relevant market urged by defendants for reviewing their section 2 counterclaims is the South-Central area of the United States, the heart of their respective market. Nowhere do defendants contend that the relevant market should consist of the worldwide propanil market. Nevertheless, defendants urge persistently as evidence of Rohm and Haas' monopolistic activities the Bayer-Rohm and Haas agreements to allegedly divide up the world market for propanil. In addition, defendants claim injury from such agreements in the form of their inability to enter into foreign markets. The restricted market definition advanced by defendants in light of their worldwide monopoly claims is inconsistent and extremely troublesome to the Court. To accept the definition of the geographic market as advanced by defendants would necessarily preclude them from prevailing on their antitrust counterclaims directed towards Rohm and Haas' alleged attempt to monopolize the world market for propanil. However, as defendants have not proposed nor proven any other geographic market, the Court is left with no other alternative but to conclude that defendants have failed to establish a necessary predicate for prevailing on their world market monopoly allegations.

Upon reviewing the record, the arguments of counsel, and the relevant law, the Court concludes that the relevant geographic market in the instant cause is that proposed at one point by defendants, *i.e.*, the South Central

rice growing states of the United States. Refer to Finding 188. Rohm and Haas' assertions that the market should encompass the entire rice growing region of the United States is unavailing. As stated earlier, the Court's inquiry must focus on that geographic area in which Rohm and Haas, not the defendants, effectively competes with other individuals or businesses for the distribution of propanil for use in controlling weeds growing in rice. The credible evidence before the Court indicates that Rohm and Haas' domestic propanil market does not include California or any state other than those states within the relevant geographic market accepted by this Court.

Defendants have alleged that Rohm and Haas attempted to monopolize the propanil market by enforcing a fraudulently obtained patent, threatening to sue defendants' customers, engaging in predatory pricing practices, and fashioning exclusive dealing arrangements.

108. Consistent with the Court's earlier conclusion, refer to Conclusion 99, the credible evidence in the record reveals that the patent in suit was not obtained through fraud. Consequently, the Court concludes once again that defendants have failed to establish an essential element of their counterclaims predicated on their fraudulent patent allegations.

Defendants argue in the alternative, however, that

> [i]f the Court were to determine that Rohm and Haas' conduct in the PTO was something less than the type of fraud held in *Walker* to form a basis for an action under Section 2 of the Sherman Act, nevertheless the evidence in this case shows that the filing of these suits was an integral part of an overall scheme to monopolize.

The activity of which defendants complain, *i.e.*, the invocation of the judicial process, is protected from antitrust scrutiny by the *Noerr-Pennington* doctrine. *See*

Otter Tail Power Co. v. United States, supra. California Motor Transport Co. v. Trucking Unlimited, 404 U.S. 508, 92 S.Ct. 609, 30 L.Ed.2d 642 (1972); *Clipper Express v. Rocky Mountain Motor Tariff Bureau, Inc.*, 674 F.2d 1252, 1263 (9th Cir. 1982); *Forro Precision, Inc. v. International Business Mach. Corp.*, 673 F.2d 1045, 1059 (9th Cir. 1982); *Associated Radio Service Co. v. Page Airways, Inc., supra; Mid-Texas Communications Sys., Inc. v. American Tel. and Tel. Co.*, 615 F.2d 1372, 1382 (5th Cir. 1980).

109. The doctrine was developed in three principal Supreme Court cases, beginning with *Eastern R.R. Presidents Conference v. Noerr Motor Freight*, 365 U.S. 127, 81 S.Ct. 523, 5 L.Ed.2d 464 (1961). In *Noerr*, a group of trucking companies sued their competitors, a group of railroads, for violations of the Sherman Act. Their antitrust claims were premised on the railroads' having conducted a "publicity campaign against truckers designed to foster the adoption and retention of laws and law enforcement practices destructive of the trucking business, to create an atmosphere of distaste for the truckers among the general public, and to impair the relationships existing between the truckers and their customers." *Noerr, supra*, 365 U.S. at 129, 81 S.Ct. at 525. In reversing the judgment holding that the railroads' campaign had violated the antitrust laws, the Supreme Court held that "at least insofar as the railroads' campaign was directed toward obtaining governmental action, its legality was not at all affected by any anticompetitive purpose it may have had." *Id.* at 139-40, 81 S.Ct. at 530-31. Prior to so ruling, the Court had observed that "It is neither unusual nor illegal for people to seek action on laws in the hope that they may bring about an advantage to themselves and a disadvantage to their competitors." *Id.* at 139, 81 S.Ct. at 530. The Court further found that a contrary construction of the Sherman Act not only would deprive public officials of valuable sources of information on matters affecting their decision-making but

also would deprive people of their right to petition with regard to issues significantly affecting their own interests. *Id.*

The antitrust immunity established in *Eastern R.R. Presidents Conference v. Noerr Motor Freight, supra,* was reaffirmed and expanded in scope in the case of *United Mine Workers v. Pennington,* 381 U.S. 657, 85 S.Ct. 1585, 14 L.Ed.2d 626 (1965). In cooperation with union officials, several large coal companies attempted to eliminate competition from smaller coal companies by persuading the Secretary of Labor to set a higher minimum wage for companies selling coal to the Tennessee Valley Authority. In reversing a jury verdict for the smaller coal companies, the Supreme Court stated: "[j]oint efforts to influence public officials do not violate the antitrust laws even though intended to eliminate competition. Such conduct is not illegal, either standing alone or as part of a broader scheme itself violative of the Sherman Act." *Id.* at 670, 85 S.Ct. at 1593.

Seven years later, the Supreme Court extended this immunity from antitrust liability to the administrative and judicial processes. In *California Motor Transport Co. v. Trucking Unlimited, supra,* a group of highway carriers had allegedly conspired to deter competitors from obtaining new or expanded operating rights from the California Public Utilities Commission by opposing every such application, regardless of its merits. Writing for the Court, Justice Douglas stated that the immunity afforded by the *Noerr-Pennington* doctrine was grounded in the First Amendment rights of association and petition. Although the Court extended the scope of the antitrust immunity, the Court stressed that the doctrine was not an absolute immunity without exception. "We said . . . in Noerr that there may be instances where the alleged conspiracy 'is a mere sham to cover what is actually nothing more than an attempt to interfere with the business relationships of a competitor and the appli-

cation of the Sherman Act would be justified.'" *Id.* 404 U.S. at 511, 92 S.Ct. at 612, quoting, *Eastern R.R. Presidents Conference v. Noerr Motor Freight, supra,* 365 U.S. at 144, 81 S.Ct. at 533. The Court did not attempt, however, to define the perimeters of the sham exception, but instead listed several examples of activity which may come within it. *California Motor Transport v. Trucking Unlimited, supra,* 404 U.S. at 512-513, 92 S.Ct. at 612-13. *See also Otter Tail Power Co. v. United States, supra,* 410 U.S. at 380, 93 S.Ct. at 1031. *See generally* Fishel, *Antitrust Liability for Attempts to Influence Government Action: The Basis and Limits of the Noerr-Pennington Doctrine,* U.Chi.L.Rev. 80, 96-104 (1977).

110. The sham exception first recognized in *Eastern R.R. Presidents Conference v. Noerr Motor Freight, supra,* and expanded in several subsequent cases, was amplified further by the Fifth Circuit Court of Appeals in *Associated Radio Serv. Co. v. Page Airways, Inc., supra.* At the district court level, the court had rejected defendant's contention that the sham exception to the *Noerr-Pennington* doctrine applied only in instances where it could be "shown that the actions taken by defendants were baseless and instituted without probable cause or, in other words, that a case can be made that defendants maliciously prosecuted the [prior actions]." *Associated Radio Serv. Co. v. Page Airways, Inc.,* 414 F.Supp. 1088, 1094 (N.D. Tex. 1976), *aff'd,* 624 F.2d 1342 (5th Cir. 1980), *cert. denied,* 450 U.S. 1030, 101 S.Ct. 1740, 68 L.Ed.2d 226 (1981). Recognizing that the gist of the exception to *Noerr-Pennington* immunity is abuse of legal process and not the tort of malicious prosecution, the court found that

> the baselessness of claims made in prior proceedings is only one aspect of various possible abuses of the legal process. The gravamen of the 'tort' abuse of process is the initiation of a legal proceeding against

> an individual to secure an objective other than the judgment purportedly sought in that proceeding.

Id. at 1096. Accordingly, the trial court held that:

> [p]laintiff need only show that the defendant instituted litigation with the purpose of achieving a collateral and unlawful objective to that appearing on the face of the suit and that he committed specific acts—*other than those acts incidental to the normal use of the courts*—directed at attaining that objective.

Id. (emphasis added). This interpretation of the sham exception was subsequently approved by the appellate court. *See Associated Radio Serv. Co. v. Page Airways, Inc., supra,* at 1358 n.27.

111. Keeping in mind the development by the Supreme Court of the *Noerr-Pennington* doctrine and the sham exception, and the amplification of the doctrine and the exception in subsequent cases, the Court returns to its review of defendant's allegation. Upon reviewing the evidence, the Court is compelled to conclude that the instant proceeding and the other suits of which defendants complain were instituted by Rohm and Haas for the dual purpose of protecting its patent from infringement and seeking the damages to which it was entitled as a result of such infringement. Refer to Findings 209-211. Defendants have failed to establish that Rohm and Haas' actions are baseless or that they were initiated and undertaken clearly and palpably without probable cause. Nor have defendants proven that Rohm and Haas' actions are tainted by fraud, perjury, bribery or other practices constituting a corruption of the judicial process. Rohm and Haas' resort to the courts is therefore protected activity entitled to immunity from antitrust liability by virtue of the *Noerr-Pennington* doctrine.

112. Similarly, the Court concludes that the 1980 letter written by Rohm and Haas' patent counsel informing other manufacturers and various distributors of propanil

that Rohm and Haas would enforce its patent against those who marketed propanil made by others was prepared and distributed in good faith for the principal purpose of protecting its rights in its patent. Refer to Finding 209. Such activity is protected also by the *Noerr-Pennington* doctrine. *See Outboard Marine Corp. v. Pezetel*, 474 F.Supp. 168, 174 (D. Del. 1979) ("[I]f resort to the courts is protected by Noerr-Pennington, then threats to do so, without more, are likewise immune from liability."); *Clairol, Inc. v. Boston Discount Center of Berkley, Inc.*, 1976-2 Trade Cas. ¶ 61,108, at 7 (E.D. Mich. 1976) ("Since Clairol's resort to the courts does not constitute a violation of the antitrust laws, its letter to the diverters informing them of the intention to resort to the courts likewise is protected under the *Noerr-Pennington* and *California Motor Transport* doctrines.") (footnote omitted), *aff'd*, 608 F.2d 1114 (6th Cir. 1979). *See also Penwalt Corp. v. Zenith Laboratories, Inc.*, 472 F.Supp. 413, 424 (E.D. Mich. 1979), *appeal dismissed*, 615 F.2d 1362 (6th Cir. 1980).

113. Even assuming arguendo that the defendant had introduced evidence establishing that, in addition to the protection of its rights in its patent, Rohm and Haas had an anticompetitive motive or purpose in threatening and filing lawsuits, the Court would not have necessarily reached a different result. The cases reviewed by the Court in the area of the *Noerr-Pennington* doctrine are replete with statements that anticompetitive motive or purpose *per se* does not eliminate the immunity afforded by the *Noerr-Pennington* doctrine. *See e.g. Eastern R.R. Conference v. Noerr Motor Freight, Inc., supra*, 365 U.S. at 138-139, 81 S.Ct. at 530; *United Mine Workers v. Pennington, supra*, 381 U.S. at 669, 85 S.Ct. at 1592 ("Nothing could be clearer from the Court's opinion than the anticompetitive purpose did not illegalize the conduct there involved"); *California Motor Transport Co. v. Trucking Unlimited, supra*, 404 U.S. at 515, 92 S.Ct. at

614 ("[A]ny carrier has the right of access to agencies and courts, within the limits, of course, of their prescribed procedures, in order to defeat applications of its competitors"); *I.T.T. Corp. v. United Tel. Co.*, 550 F.2d 287, 289 (5th Cir. 1977) (per curiam). *See also* P. Areeda & D. Turner, *Antitrust Law, supra,* at ¶ 202.

114. A business may choose to price a particular product at non-remunerative levels in order to exclude or drive out its competitors. Such "predatory pricing" may be a means of obtaining or maintaining a monopoly position in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2 (Supp. 1982). *See United States v. American Tobacco Co.*, 221 U.S. 106, 160, 182, 31 S.Ct. 632, 640, 649, 55 L.Ed. 663 (1911); *Standard Oil Co. v. United States*, 221 U.S. 1, 43, 31 S.Ct. 502, 509, 55 L.Ed. 619 (1911); *Malcolm v. Marathon Oil Co.*, 642 F.2d 845, 853 n.16 (5th Cir. 1981) ("Predatory pricing violates § 2 of Sherman Act . . . when there is an attempt to monopolize"), *cert. denied*, 454 U.S. 1125, 102 S.Ct. 975, 71 L.Ed.2d 113 (1981). *See generally* 2 E. Kitner, *Federal Antitrust Laws* § 13.3 (1980); P. Areeda and D. Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act*, 88 Har.L.Rev. 697 (1975). The aforestated legal standard, however, cannot be applied in a vacuum but requires a practical understanding of business realities.

> Even legitimate price decreases will necessarily have a non-remunerative effect upon other firms in the market. These decreases will reduce competitors' profit margins and they may drive the inefficient firm out of business while the firm which originally reduced prices continues to make a profit. It is the very nature of competition that the vigorous, efficient firm will drive out less efficient firms. This is not proscribed by the antitrust laws. 'Antitrust legislation is concerned primarily with the health of the

competitive process, not with the individual competitor who must sink or swim in competitive enterprise.'

Janich Bros., Inc. v. American Distilling Co., 570 F.2d 848 (9th Cir. 1977), *cert. denied*, 439 U.S. 829, 99 S.Ct. 103, 58 L.Ed.2d 122 (1978), *citing, International Air Indus., Inc. v. American Excelsior Co.*, 517 F.2d 714, 721 (5th Cir. 1975), *cert. denied*, 424 U.S. 943, 96 S.Ct. 1411, 47 L.Ed.2d 349 (1976). There is nevertheless a clear line of distinction between predatory pricing and healthy competition, such distinction lies in the motive of the challenged activity: "a predator by his pricing practices seeks 'to impose losses on other firms, not garner gains for itself.'" *Malcolm v. Marathon Oil Co., supra*, at 853-54, quoting, L. Sullivan, *Handbook of the Law of Antitrust III* (1977) (remainder of footnote omitted). *See also William Inglis & Sons Baking Co. v. ITT Continental Baking Co.*, 668 F.2d 1014, 1031 (9th Cir. 1981).

115. In determining whether certain pricing activity constitutes predatory pricing, two different tests have been developed. The touchstone for the first test is the intent of the alleged predator: "If the alleged predator 'desires' that its pricing practices injure its competitors, it was using predatory pricing." *Malcolm v. Marathon Oil Co., supra*, at 854 n. 17; *see also* L. Sullivan, *Handbook of the Law of Antitrust, supra*, at 108-9. The second test, proposed by Professors Areeda and Turner, stresses a strictly economic approach: "predatory pricing occurs when pricing policies yield returns below average or marginal cost, whichever is lower." *Malcolm v. Marathon Oil Co., supra*, at 854 n. 17. *See also* Areeda & Turner, *Predatory Pricing and Related Practices Under Section 2 of the Sherman Act, supra*, at n. 13 (1975); *William Inglis & Sons Baking Co. v. ITT Continental Baking Co., supra*, at 1032-33; *Arizona v. Maricopa County Medical Soc'y*, 643 F.2d 553, 559 and n. 6 (9th Cir. 1980). Regardless of the particular standard followed by the Court in the present cause, the Court con-

cludes that defendants' predatory pricing claims are without evidentiary support. During the trial of this cause, defendants did not introduce any credible evidence suggesting that plaintiff illegally sold propanil below average or marginal cost, or even at unrealistically low prices. Refer to Findings 196-200, 203. However, there is evidence indicating, and indeed plaintiff admits, that plaintiff suffered a loss in 1976. This loss was not due to plaintiff's actions; rather such loss resulted from an oversupply of propanil in the market place in 1976, a slackened demand and a concomitant price decline. Refer to Finding 201.

116. Moreover, the record does not reveal that Rohm and Haas possessed the necessary predatory intent. Plaintiff set its price for propanil on several factors which included the previous price of propanil, overhead costs, a level of gross profit required to provide a satisfactory return on its investment and development costs, and most importantly, the price of propanil set by its competitors. Refer to Findings 196-200, 203. Consequently, the Court concludes that defendants' allegations concerning plaintiff's pricing practices are devoid of merit.

117. It is a general characteristic of free enterprise that a trader or manufacturer has the right to exercise his discretion in choosing with whom he will conduct business. *United States v. Colgate & Co.*, 250 U.S. 300, 307, 39 S.Ct. 465, 468, 63 L.Ed. 992 (1918). *See* 2 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, § 6C.01, at 6C-1. Consequently, it naturally follows that a unilateral refusal to deal predicated on valid business reasons is entirely lawful. *See, e.g., Joe Regueira, Inc. v. American Distilling Co., Inc.*, 642 F.2d 826, 831-832 (5th Cir. 1981); *General Chems., Inc. v. Exxon Chem. Co.*, 625 F.2d 1231, 1233-1234 (5th Cir. 1980); *Coughlin v. Capital Cement Co.*, 571 F.2d 290, 300 n. 19, 301 (5th Cir. 1978). Nevertheless, there is a recognized limit to this qualified right of selection or refusal to deal.

While

> a business may refuse to deal with another for reasons sufficient to itself if the refusal to deal represents an independent, unilateral decision and is not in furtherance of an anticompetitive purpose or effect. If, however, the refusal to deal is employed to restrict another's business freedom in the open market, as in the case of resale price maintenance or tying arrangements, or if the refusal is intended to eliminate competition or to maintain or extend a monopoly position, then it may run afoul of the antitrust laws.

2 J. Von Kalinowski, *Antitrust Laws and Trade Regulation, supra*, at 6C-2 (citations omitted).

118. Although it was within Rohm and Haas' right to refuse to grant licenses under its patent and to decide which distributors would handle its propanil products, Rohm and Haas could not have required its distributors to deal exclusively in its propanil products to the exclusion of its competitors, and additionally threaten its distributors with termination if such competition occurred. After reviewing the record, the Court concludes that defendants' allegations that Rohm and Haas did indeed engage in such conduct are more hypothetical than real. The credible evidence before the Court reveals that no such express or implied arrangement or agreement existed. Refer to Findings 205, 206.

Rohm and Haas actively promotes its propanil to rice farmers and supplies technical literature, territory field salesmen and development personnel to assist in providing information to dealers and farmers. Moreover, Rohm and Haas places representatives in the field who are available at all times to answer questions and complaints from customers. In exchange for these services, Rohm and Haas requests loyalty and product service from its distributors. Refer to Finding 205. This by itself does not constitute a violation of any provision of the Sherman Act.

> 'The anti-trust laws do not prohibit a manufacturer or distributor from selecting dealers who will devote their time and energies to selling the former's products and a manufacturer or distributor is not compelled to retain dealers having divided loyalties adverse to the interests of the said manufacturer or distributor.' This is the prevailing law in the absence of an agreement compelling a distributor to refrain from selling a competitor's goods.

Refrigeration Eng'g Corp. v. Frick Co., 370 F.Supp. 702, 710-11 (W.D.Tex. 1974), *quoting*, *McElhenney Co. v. Western Auto Supply Co.*, 167 F.Supp. 949, 954 (W.D. S.C. 1959), *aff'd*, 269 F.2d 332 (4th Cir. 1959). *See also Timken Roller Bearing Co. v. FTC*, 299 F.2d 839, 842 (6th Cir.), *cert. denied*, 371 U.S. 861, 83 S.Ct. 118, 9 L.Ed.2d 99 (1962). Rohm and Haas does not require nor has it ever required that its distributors deal exclusively in its products. Rather, the evidence establishes that Rohm and Haas' distributors have consistently handled propanil products manufactured by competitors of Rohm and Haas. Refer to Findings 205, 206. Hence, the Court necessarily concludes that defendants' counterclaims predicated on their exclusive dealing allegations must fail.

119. Nor can the Court conclude that the marketing practices engaged in by Rohm and Haas violated any provision of the antitrust laws. The various marketing practices of which defendants complain were undertaken by Rohm and Haas as a result of the highly competitive conditions which existed during the relevant period. Refer to Findings 196, 199, 200, 202. The credible evidence indicates that Rohm and Haas did not engage in any conduct for the purpose of stifling competition; rather such activities were necessary in order to enable Rohm and Haas to maintain its market share and at the same time realize a profit. Refer to Findings 196, 199, 200, 202. The challenged activities were not only predicated

on legitimate business goals but were also prevalent throughout the industry. Refer to Finding 202.

120. In further support of their counterclaims that Rohm and Haas engaged in a course of action which was designed to monopolize the propanil market, defendants contend that such monopolistic activity caused Crystal's bankruptcy. After closely examining the record, the Court finds a woeful lack of evidence to justify defendants' allegation that Crystal was driven out of business and into the death grip of bankruptcy because of some action pursued by Rohm and Haas. Refer to Finding 213. Accordingly, the Court concludes that defendants' bankruptcy allegations must fail.

7. *Defendants' Section 14 Counterclaims*

121. Defendants' final antitrust counterclaims allege that Rohm and Haas engaged in anticompetitive activity prohibited by section 3 of the Clayton Act. Section 3 of the Clayton Act in pertinent part, provides:

> It shall be unlawful for any person engaged in commerce, in the course of such commerce, to . . . make a sale or contract for sale of goods, . . . on the condition, agreement, or understanding that the . . . purchaser thereof shall not use or deal in the goods . . . of a competitor or competitors of the . . . seller, where the effect of such . . ., sale, or contract for sale or such condition, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

15 U.S.C. § 14 (1973). Apparently, the basis for these counterclaims are defendants' allegations that Rohm and Haas entered into illegal exclusive dealing arrangements with its distributors. Without further analysis or treatment, the Court reaches the same conclusion as it did earlier and concludes that defendants' exclusive dealing claims do not rise above the level of speculation and are

totally unsubstantiated by the evidence in this case. Accordingly, the Court denies defendants' section 14 counterclaims.

I. *Injunctive and Legal Relief; Attorney's Fees*

122. Pursuant to 35 U.S.C. § 283 (1954), Rohm and Haas is entitled to an injunction prohibiting defendants from further infringing the patent in suit.

123. The basis for the Court's award of damages in a patent infringement suit is section 284 of Title 35 of the United States Code. Section 284 states in pertinent part:

> Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

This statute provides an award of damages premised on either the patentees' or patent holders' lost profits, and if and only if these cannot be established, then a reasonable royalty. *See Aro Mfg. Co., Inc. v. Convertible Top Replacement Co.*, 377 U.S. 476, 504-05, 84 S.Ct. 1526, 1541-42, 12 L.Ed.2d 457 (1964); *Baumstimler v. Rankin, supra*, at 1072; *Hughes Tool Co. v. G.W. Murphy Industries, Inc.*, 491 F.2d 923, 930 (5th Cir. 1973). As discussed by the Supreme Court:

> the present statutory rule is that only 'damages' may be recovered. These have been defined by this Court as 'compensation for the pecuniary loss he [the patentee] has suffered from the infringement, without regard to the question whether the defendant has gained or lost by his unlawful acts.' *Coupe v. Royer*, 155 U.S. 565, 582, 39 L.Ed. 263, 269, 15 S.Ct. 199 [206]. They have been said to constitute 'the differ-

> ence between his pecuniary condition after the infringement, and what his condition would have been if the infringement had not occurred.' *Yale Lock Mfg. Co. v. Sargent*, 117 U.S. 536, 552, 29 L.Ed. 954, 960, 6 S.Ct. 934 [942]. The question to be asked in determining damages is 'how much had the Patent Holder and Licensee suffered by the infringement. And that question [is] primarily: had the Infringer not infringed, what would Patent Holder-Licensee have made?' *Livesay Window Co. v. Livesay Industries, Inc.*, supra, 251 F.2d, at 471.

Aro Mfg. Co., Inc. v. Convertible Top Replacement Co., *supra*, 377 U.S. at 507, 84 S.Ct. at 1543.

124. A patent owner may recover as a measure of damages the lost profits caused by the illicit competition of an infringer. A requisite ingredient of the recovery of lost profits is causation, i.e., " 'but for' the infringement, he would have made the sales that the infringer made." *Milgo Elec. Corp. v. United Business Communications, Inc.*, 623 F.2d 645, 663 (10th Cir. 1980). *See also Hughes Tool Co. v. G.W. Murphy Industries Co.*, *supra*, at 929 ("[T]he patentee must prove that 'in all reasonable probability, the Patent Owner would have made the sales which the infringer made.' "), citing, *Livesay Window Co. v. Livesay Indus., Inc.*, 251 F.2d 469, 471-72 (5th Cir. 1958). The patent owner is not afforded the benefit of any presumptions, and consequently, bears the onus of satisfying the "but for" standard. *Baumstimler v. Rankin*, *supra*, at 1072; *Milgo Elec. Corp. v. United Business Communications, Inc.*, *supra*, at 663; *Hughes Tool Co. v. G.W. Murphy Indus., Inc.*, *supra*, at 929. Moreover, the lost profits which the patent owner seeks to recover must not be arrived at by conjecture, although such profits need not be established with scientific accuracy. *Hughes Tool Co. v. G.W. Murphy Indus., Inc.*, *supra*, at 929. *See also Milgo Elec. v. United Business Corp.*, *supra*, at 664-65. Additionally, where

doubts concerning the calculations of profits exist, such doubts must be resolved against the infringer. *Id.* at 664-65.

125. The Court is completely satisfied that Rohm and Haas has met its burden of proving that but for the defendants' infringement, Rohm and Haas would have sold the propanil sold by the defendants. The herbicidal propanil products manufactured and/or sold by Rohm and Haas and the infringing defendants are equivalent and completely interchangeable for use as a herbicide for the control of weeds growing in crops. Although there are other rice herbicides in the market place, these products are complementary to propanil, and, indeed, the labels of many of these products suggest that they be used in combination with propanil. Nevertheless, since 1961 there has been no other post-emergent, pre-flood herbicide in the United States as effective or in such great demand as propanil. Since its introduction, propanil has been the herbicide of choice of rice growers. Most importantly, throughout the entire relevant period, Rohm and Haas has had the necessary capital, manufacturing facilities, access to raw materials and distribution system to supply and service the entire market demand for propanil.

126. Rohm and Haas claims that the profits that it lost as the result of the defendants' infringement are those profits it would have made had it been the sole manufacturer and supplier of propanil in the market place. This contention is based upon its statutory right to exclude all others from supplying herbicidal propanil in the United States since the issuance of its patent in 1974 and its consistent policy to refuse to license its patent. The lodestar which it urges as a basis for a determination of lost profits is 60%. Basically, the 60% gross profit margin represents the gross profit margin it obtained prior to the entry of competitors into the herbicidal propanil market.

Despite the commendable advocacy of plaintiff's counsel, the Court is unable to conclude that the 60% gross profit market figure is realistic or even reasonably probable. Although there is evidence to indicate that Rohm and Haas realized a 60% gross profit margin after the introduction of herbicidal propanil when the market was competition free, plaintiff's request for the same profits from 1975 to 1981 is subject to speculation. The requested profit margin fails to take into consideration a fluid economy which has a definite effect on the agricultural industry, and most importantly, the fact that since the introduction of propanil as a herbicide, other compounds have been developed and utilized as herbicides for the control of weeds. Undeniably, and as often stated in this litigation and by the Court in its Findings and Conclusions, propanil has been and remains today the herbicide of choice of rice farmers. Additionally, no other herbicide now used possesses the desirable characteristics of propanil, nor has propanil been replaced by other herbicides. The Court is unable to conclude, however, that these new herbicides would have no effect on the profit margin suggested by propanil. Consequently, the Court reluctantly declines to adopt and follow the proposed profit margin urged by plaintiff in calculating the damages to which plaintiff is entitled.

127. Nevertheless, despite Rohm and Haas' failure to prevail on its quest for damages on the basis of a 60% gross profit margin, the resultant pecuniary loss suffered by Rohm and Haas due to defendants' infringements is easily capable of determination. During the trial of the case *sub judice*, a stipulation was introduced into evidence depicting the amount of propanil sold by each of the defendants from 1975 to 1981. Refer to Findings 161, 162. Rohm and Haas submitted also documentary evidence of the amount of profits that Rohm and Haas would have realized had it made the propanil sales made by the defendants. Refer to Finding 219. These amounts

are calculated by simply multiplying the historic gross profits margins Rohm and Haas earned in the years 1975 to 1981 by the amount of propanil sold by the defendants.

After careful and judicious consideration and in light of the Court's earlier conclusion that but for the defendants' infringements, Rohm and Haas would have made the propanil sales made by the defendants, the Court concludes that Rohm and Haas is entitled to recover infringement damages from ARGE in the amount of $2,731,917. Refer to Finding 219. The Court concludes further that Rohm and Haas is entitled to recover infringement damages from Crystal and Eller in the amount of $4,023,114.[22] Refer to Finding 219. As Rohm

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[22] In partial defense to Rohm and Haas' claim for infringement damages, defendants assert that Rohm and Haas is estopped from claiming damages for the period from June 11, 1974, the date this suit was filed, to September 17, 1979, the filing date of Rohm and Haas' motion for leave to amend and supplement its complaint. The crux of defendants' complaint is their allegation that Rohm and Haas waited five years after the commencement of this suit before asserting a claim for damages. A review of Rohm and Haas' original complaint reveals that in addition to injunctive and declaratory relief, Rohm and Haas requested "[T]he costs of this action, and such other relief as the Court may deem just and the circumstances warrant . . . ." It is readily apparent that no specific request for damages is made.

Rule 54(c) of Federal Rules of Civil Procedure, in pertinent part provides: "every final judgment shall grant the relief to which the party in whose favor it is rendered is entitled, even if the party has not demanded such relief in his pleadings." This provision which is to be liberally applied, 6 J. Moore, *Moore's Federal Practice, supra*, § 54.62, at 1266, permits a court to award a party "damages even though equitable relief was prayed for; or . . . [grant] equitable relief although damages were prayed for; and the court may award equitable relief of a different nature than that sought by the prayer, *id.*, at 1268-69 (footnotes omitted). Rule 54(c) does permit or perhaps even requires the trial judge to grant relief to which a party is entitled even if not requested in the prayer for relief." *International Harvester Credit Corp. v. East Coast Truck*, 547 F.2d 888, 891 (5th Cir. 1977). *See also*

and Haas points out, however, since ARGE purchased most of its supply of herbicidal propanil from Crystal

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Hoffman La Roche, Inc. v. Premo Pharmaceutical Laboratories, Inc., 210 U.S.P.Q. 374, 378 (D.N.J. 1980). Hence, the Court is of the belief that a party can recover all the damages to which he is entitled if such a claim was advanced by the claimant well prior to trial. This result is quite reasonable particularly in the instant cause where the suit was filed on the day the patent sued upon was issued. Accordingly, Rohm and Haas had not as yet sustained any pecuniary loss. Additionally, from the instant this suit was filed, defendants demanded to litigate and initially prevailed on the misuse defense, thereby resulting in the dismissal of this cause until the entry of the Fifth Circuit's decision on July 30, 1979. Moreover, within the months after the Fifth Circuit's decision, the plaintiff filed its motion for leave to amend its complaint to add a specific claim for damages. Regardless of the aforementioned circumstances, however, the Court is cognizant that damages should not be awarded to Rohm and Haas prior to the day of the filing of its motion for leave to amend. In *Sapp v. Renfroe*, 511 F.2d 172, 176 n. 3 (5th Cir. 1975) the Fifth Circuit stated:

> Rule 54(c) of the Federal Rules of Civil Procedure has been construed liberally and under it the demand for relief in the pleadings does not limit, except in cases of default, the relief a court may grant when entering judgment. *See Thorington v. Cash*, 494 F.2d 582, 586 n. 9 (5th Cir. 1974). A party may be awarded the damages established by the pleadings or the facts proven at trial even though only injunctive relief was demanded in the complaint, unless such damages are foisted upon the parties by the court, or unless the failure to demand such relief prejudiced the opposing party. *Robinson v. Lorillard Corp.*, 444 F.2d 791, 802-03 (4th Cir. 1971); *see* J. Moore, Federal Practice ¶ 54.62 (2d ed. 1974).

In accord, see Robinson v. Lorillard Corp., 444 F.2d 791, 803 (4th Cir.), *cert. dismissed*, 404 U.S. 1006, 92 S.Ct. 573, 30 L.Ed.2d 665 (1971); *Columbia Nastri & Carta Carbone v. Columbia Ribbon & Carbon Mfg. Co., Inc.*, 367 F.2d 308, 312 (2d Cir. 1966); *Wells v. Schmidt*, 80 F.R.D. 463, 465-466 (W.D. Wis. 1978).

Despite defendants' argument to the contrary, the Court is unable to discern any prejudice that defendants will suffer as a result of the award of infringement damages to Rohm and Haas from the date of the issuance of its patent. Plaintiff's amendment, although filed five years after the institution of this cause, was interjected into this suit two years prior to trial and prior also to the

and Eller, "each may ultimately be entitled to a credit against its respective lost profits damages figure for any amount of lost profits damages actually collected by Rohm and Haas from the other." Plaintiff, Rohm and Haas Company's Post Trial Memorandum at 130. *See also ARO Mfg. Co. v. Convertible Top Co., supra*, 377 U.S. at 512, 84 S.Ct. at 1545. Accordingly, in order that this Court can determine the amount of damages to which the defendants are jointly and severally liable so that a double recovery can be prevented, the Court orders ARGE to submit an affidavit, or if possible, a stipulation executed by all of the parties to this cause, detailing the amount of propanil which ARGE purchased from Crystal and Eller for later resale. Such affidavit or stipulation shall be submitted within twenty (20) days. Responses to such affidavit, if any, shall be filed

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commencement of the extensive and thorough discovery which was conducted by the parties. Thus, defendants had ample opportunity to prepare their defenses to Rohm and Haas' damage claims.

Defendants assert also that they continued to sell propanil after September, 1979 because of their belief that Rohm and Haas could not seek past damages and due to the relatively low degree of financial exposure facing them if Rohm and Haas did eventually prevail on its infringement claim. In considering the merits of this contention, the Court finds the following langauge to be appropriate:

> Nor can it be said that it is unfair or unjust for Roche to claim treble damages for infringement and other classes of money damages, when in its early stages the case was directed only to a declaratory judgment and injunction. An injured party may begin proceedings to vindicate his rights by seeking modest relief, less than he is entitled to claim, but such self restraint gives the adversary wrongdoer no right to insist on leniency so long as the case is open and undecided.

Hoffman La Roche, Inc. v. Premo Pharmaceutical Laboratories, Inc., supra, at 378. Hence, on the basis of the reasoning set forth above, the Court finds defendants' claimed prejudice to be without merit and accordingly, the Court concludes that Rohm and Haas will be able to recover all of the damages to which it is entitled from the date of the issuance of the patent in suit.

within seven (7) days thereafter. If it is apparent after the submission of the affidavit and any responses thereto that a dispute exists with respect to the amount of propanil that ARGE purchased from Crystal and Eller during the relevant period, then the Court will be left with no other alternative but to appoint a Master to conduct an accounting for the purpose of making such a determination.

128. Sections 284 and 285 of Title 35 permit the trial court to increase the award of damages, up to three times the amount found, and in exceptional cases, award attorneys' fees to the prevailing party.

An award of increased damages under section 284 is directed at acts constituting willful or wanton infringement of the patent. *Baumstimler v. Rankin*, *supra*, at 1073; *Lam, Inc. v. Johns-Manville Corp.*, *supra*, at 474; *Deere & Co. v. International Harvester Co.*, 658 F.2d 1137, 1146 (7th Cir.), *cert. denied*, 454 U.S. 969, 102 S.Ct. 514, 70 L.Ed.2d 386 (1981); *Swofford v. B & W, Inc.*, 336 F.2d 406, 413 (5th Cir. 1964), *cert. denied*, 379 U.S. 962, 85 S.Ct. 653, 13 L.Ed.2d 557 (1965); *Union Carbide Corp. v. Graver Tank & Mfg. Co.*, *supra*, 282 F.2d 653, 660 (7th Cir. 1960).

129. In light of the protracted procedural history of the instant cause which includes appeals to the Fifth Circuit and to the Supreme Court of the United States, and defendants' vigorous and good faith defense of this highly complex patent infringement action, the Court is unable to conclude that defendants infringed Rohm and Haas' patent "willfully" or "wantonly" as those terms are defined in the case law. Although defendants are guilty of infringement by reason of their copying of Rohm and Haas' patent, defendants began manufacturing and marketing propanil as a selective, post-emergence herbicide prior to the issuance of Rohm and Haas' patent. Undeniably, the copying of a competitor's product unpro-

tected by the patent laws is not illegal and does not constitute infringement. *See Milgo Elec. Corp. v. United Business Communications, Inc., supra,* at 666; *Inject-O-Meter Mfg. Co. v. North Plains Fertilizer & Chem., Inc.,* 308 F.Supp. 538, 541 (N.D. Tex. 1970), *aff'd,* 439 F.2d 1138 (5th Cir.), *cert. denied,* 404 U.S. 824, 92 S.Ct. 51, 30 L.Ed.2d 52 (1971). Once defendants had notice of plaintiff's patent rights, defendants solicited the advice of counsel to determine the validity of Rohm and Haas' patent and whether or not it was violating Rohm and Haas' patent. Defendants' patent counsel responded that the validity of plaintiff's patent was very doubtful. Defendants continually relied in good faith on the advice of counsel even after the Supreme Court's decision on the misuse issue. The Court finds defendants' affirmative action in seeking the advice of counsel to be indicative of defendants' good faith which contradicts plaintiff's assertion of the presence of willfulness. *Baumstimler v. Rankin, supra,* at 1073 ("[W]here the issue of patentability is 'close and litigated in good faith, the court should be more reluctant to impose punitive damages.' "), *citing, Yoder Bros., Inc. v. California-Florida Plant Corp.,* 537 F.2d 1347, 1383 (5th Cir. 1976), *cert. denied,* 429 U.S. 1094, 97 S.Ct. 1108, 51 L.Ed.2d 540 (1977); *Union Carbide Corp. v. Graver Tank & Mfg. Co., supra,* at 660. Moreover, the Court is persuaded that defendants possessed an honest doubt concerning the validity of the patent. Such a finding precludes a determination of willfullness. *See Wilden Pump & Eng'g Co. v. Pressed & Welded Prods. Co., supra,* at 989-90; *Electra Corp. v. Basic, Inc.,* 599 F.2d 745, 757 (6th Cir.), *cert. denied,* 444 U.S. 942, 100 S.Ct. 297, 62 L.Ed.2d 308 (1979). As recognized by the court in *Enterprise Mfg. Co. v. Shakespeare Co.,* 141 F.2d 916, 921 (6th Cir. 1944):

> If honestly mistaken as to a reasonably debatable question of validity, an infringer should not be made to smart in punitive damages. Compensatory dam-

> ages constitute adequate remuneration for invasion of a patentee's property rights, unless the refusal of the infringer to bow to the presumptive validity of an issued patent is consciously wrongful. A court of equity, exercising patent jurisdiction, does not readily infer wrong motivation upon the part of those resisting the validity of patent claims. Patentees generally entertain suspicion that those who challenge their claims are deliberate malefactors. However bona fide, such suspicions produce no legal effect, unless sustained by evidence substantiating suspicion as truth.

Consequently, on the basis of the record before this Court, the Court is unable to conclude that defendants willfully or wantonly infringed plaintiff's patent within the meaning of section 284, before or after June 27, 1980.

130. Section 285 of Title 35 of the United States Code authorizes a trial court in a patent infringement action to award attorney's fees to the prevailing party if the case qualifies as "exceptional". Generally, an award of fees is justified only if misconduct, unfairness, or bad faith in the prosecution or defense of the patent can be found. *Colortronic Reinhard & Co. v. Plastic Controls, Inc.*, 668 F.2d 1, 9 (1st Cir. 1981); *Deere & Co. v. International Harvester Co., supra*, at 1146; *Arbrook, Inc. v. American Hosp. Supply Corp.*, 645 F.2d 273, 277 (5th Cir. 1981). This Circuit has stated that "an award under [section 285] requires an unambiguous showing of extraordinary misconduct and the case law addressing the issue indicates that an award of attorney's fees under section 285 is not lightly made." 8 A. Deller, *Deller's Walker on Patents* § 760 (2d ed. 1973). Circumstances in both this and other circuits upon which an award of attorney's fees under section 285 have been based include: fraud on the patent office or the initiation of suit with unconfirmed data to support infringement, *Loctite Corp. v. Fel-Pro, Inc.*, 667 F.2d 577, 584 (7th Cir. 1981);

Abrook, Inc. v. American Hosp. Supply Corp., supra, at 279; *Bird Provision Co. v. Owens Country Sausage, Inc.,* 568 F.2d 369 (5th Cir. 1978); and testimony of a defendant "contrary to all documentary evidence, amounting to 'an unconscionable act done with deceptive intent,'" *Loctite Corp. v. Fel-Pro, Inc., supra,* at 584, *quoting Skil Corp. v. Lucerne Prods., Inc.,* 503 F.2d 745, 750 (7th Cir. 1974), *cert. denied,* 420 U.S. 974, 95 S.Ct. 1398, 43 L.Ed.2d 654 (1975).

131. The manner in which this litigation was conducted does not present the exceptional circumstances contemplated by Congress under 35 U.S.C. § 285 so as to merit awarding reasonable attorneys' fees to Rohm and Haas. The Court is of the belief that defendants questioned the validity of plaintiff's patent in good faith and upon the advice of counsel. Consequently, plaintiff's request for attorneys' fees is denied.

Interest

132. The award of prejudgment interest in a patent case is within the discretion of the trial court. *See* 35 U.S.C. § 284 (1954); *see also Devex Corp. v. General Motors Corp.,* 667 F.2d 347, 363 (3d Cir. 1981), *cert. granted,* —— U.S. ——, 102 S.Ct. 2270, 73 L.Ed.2d 1285 (1982); *Milgo Elec. Corp. v. United Business Communications, Inc., supra,* at 667. Prejudgment interest in patent cases is construed as remedial in purpose "by making the plaintiff whole for the intervening loss of use of the money he would have had at the date of infringement, but for the defendant's unlawful acts." *Trio Process Corp. v. L. Goldstein's Sons, Inc., supra,* 638 F.2d 661, 663 (3d Cir. 1981). *See also Aro Mfg. Co. v. Convertible Top Co., supra,* 377 U.S. at 505-06, 84 S.Ct. at 1542; *Devex Corp. v. General Motors Corp., supra,* at 363-64; *Saf-Gard Prods., Inc. v. Service Parts, Inc.,* 491 F.Supp. 996, 1010-1011 (D. Ariz. 1980).

133. On the basis of the aforestated rationale underlying an award of prejudgment interest in patent suits in light of this protracted case, the Court finds merit to Rohm and Haas' argument that it should be awarded prejudgment interest on the damages awarded by this Court. The Court declines, however, to award Rohm and Haas interest on the basis of the AAA corporate bond rate for years 1975 to 1981. Instead the Court awards Rohm and Haas prejudgment interest at the rate of 6%, the statutory rate of prejudgment interest in the State of Texas. *See* Tex.Rev.Civ.Stat.Ann. art. 5069-1.03 (Vernon Supp. 1982).

IV. *Conclusion*

For the reasons hereinabove outlined, the Court concludes that plaintiff's Patent No. 3,816,092 is valid and enforceable and that such patent was infringed by defendants Crystal, Eller and ARGE. As a consequence, plaintiff Rohm and Haas is entitled to injunctive and monetary relief and an accounting as outlined herein, if needed. Inasmuch as defendants have failed to prove their anti-trust counterclaims, the Court holds that the plaintiff prevails in this cause.

In the event the foregoing Findings of Fact also constitute Conclusions of Law, they are adopted as such. In the event the foregoing Conclusions of Law also constitute Findings of Fact, they are adopted as such.

APPENDIX B

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal No. 83-599

ROHM AND HAAS COMPANY,
Appellee,

v.

CRYSTAL CHEMICAL COMPANY and JOE C. ELLER,
Appellants.

DECIDED: December 7, 1983

BEFORE RICH, KASHIWA, MILLER, SMITH, and NIES, *Circuit Judges.*

RICH, *Circuit Judge.*

This patent appeal is from the October 27, 1982, judgment of the United States District Court for the Southern District of Texas. Sitting without a jury, it held claims 1-3, 6, and 8-12 of U.S. Patent No. 3,816,092 (RH patent or Wilson patent), issued June 11, 1974, to Rohm and Haas (RH or R&H) as assignee of the inventors, for "Herbicidal 3,1-dichloroanilides," valid and infringed by Crystal Chemical Co. and Joe C. Eller (collectively Crystal).[1] Because R&H intentionally made material mis-

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[1] Defendants below were Dawson Chemical Co., Crystal Manufacturing Corp., Crystal Chemical Co., Joe C. Eller (Chairman and Chief Executive Officer of Dawson Chemical, Crystal Manufacturing, and Crystal Chemical), and American Rice Growers Exchange. On March 15, 1983, the American Rice Growers Exchange appeal

representations to the U.S. Patent and Trademark Office (PTO) the effects of which were not eliminated prior to issuance, we reverse the district court's holding that there was no fraud and remand the case for reconsideration in light of our decision that the Wilson patent is invalid.

The extensive opinion of the district court is reported at 217 USPQ 515-603 and familiarity with the procedural history and substantive background of this dispute as therein set forth will be presumed. We find it necessary at this juncture to discuss only the issue of fraud as it affects patent validity.

The Fraud Issue

A. *Disposition by the District Court*

Of 220 Findings of Fact, the district court made the following 19 findings with respect to Crystal's claim that the RH patent was procured with affidavits furnished to the PTO containing misleading, falsified, and misrepresented data. Each of these findings appears under the district court's subheading "6. *Renewed Prosecution of the 1961 Application.*" 217 USPQ at 541. We summarize them as follows, adding some pertinent comments and giving their USPQ locations and finding of fact numbers:

> 1. On February 16, 1973, RH held an "extensive interview" with patent examiner Thomas, after intensive preparation "to identify areas of potential interest to the patent examiner and to collect and organize documents in logical sequence." Representatives of both the Department of Justice, which was investigating Monsanto in connection with Monsanto's fraud in the PTO, and the PTO Solicitor's Office, were invited to attend, as was Mr. Irving Marcus who was chief of the examining group. Only

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was dismissed. Crystal Chemical Co. and Joe C. Eller are the only remaining appellants.

Thomas was present throughout the interview. Marcus was present at the beginning and remained available for consultation if serious questions arose. Finding 108 at 217 USPQ 541-42. In its brief, RH stated that, on calling Mr. Marcus to arrange an interview, "Mr. Marcus suggested that the Solicitor's Office might wish to attend the interview, and invitations were extended to the Solicitor's Office, the Justice Department, and Mr. Marcus."

2. Thomas had been responsible for declaring Interference 93,751 among Monsanto, RH, and Bayer, and rendered the decisions on motions during the motion period. Finding 109 at 217 USPQ 542.

3. At the time of renewed prosecution, Thomas was a primary examiner. Since 1956 he had examined applications dealing with herbicides, he was the recognized PTO herbicide expert, in 1973 he had 8 or 10 other pending applications dealing with the same subject matter as RH's 1961 application, he was well aware of the herbicidal activity of propanil and related compounds, he was familiar with the review and interpretation of herbicidal data sheets, and he was familiar with the prior art. Finding 110 at 217 USPQ 542.

4. During the interview, documents were spread out for ease of reference on conference room tables. Thomas brought the RH prosecution files with him and indicated that he had reviewed them prior to the interview. Finding 111 at 217 USPQ 542.

5. During the interview, RH summarized and explained key events of prior proceedings including, but not limited to, the interference and the Monsanto litigation. RH left Thomas copies of trial court and appellate opinions, RH's appellate brief, and all four volumes of the appendix before the Third Circuit in the Monsanto case (the appendix being marked for

items that might be of particular interest to Thomas). Thomas stated that he intended to review these items after the interview. Finding 112 at 217 USPQ 542.

6. On returning these documents several weeks later, Thomas stated that he had reviewed the pertinent parts. Finding 113 at 217 USPQ 542.

7. RH's discussion of the Monsanto litigation and its disclosure of Monsanto's contention that RH had withheld herbicidal data from the PTO, together with its counsel's notation to Thomas of the trial court's comment that "Monsanto and Rohm and Haas were equally disingenuous with respect to the comparison of the herbicidal effects of DCAA and DCPA in their applications to the Patent Office," alerted Thomas to the importance of the comparative data. Only the testimony of McRae, one of the inventors, and of Hutz, RH's lead counsel, is cited in support of this finding. Finding 114 at 217 USPQ 543.

8. Hutz and McRae also brought a "substantial number of documents" called the "500,000 series" documents. The court found that although Hutz repeatedly offered to file the documents with the PTO, Thomas elected to have them remain with RH. Finding 115 at 217 USPQ 543.

9. RH also discussed with Thomas the prior art that had been raised during prosecution of the RH applications, the prior art relied on by RH in the Monsanto litigation, and the prior art that had been cited against Monsanto during prosecution of its application. Finding 116 at 217 USPQ 543.

10. In preparation for the interview, RH collected all records available to it reflecting herbicidal test data on propanil and related compounds regardless of whether the related compounds were prior art. These were the "500,000 series" documents. The

identity of the compounds for which data existed was brought to Thomas' attention. Finding 117 at 217 USPQ 544.

11. These data were used to prepare several affidavits that had been filed in the PTO during prosecution of the 1958, 1960, and 1961 applications. "To the extent that such base records could be reconstructed, they were identified, keyed to the prior affidavits, compared side by side with each of the affidavits and discussed with" Thomas. RH "did not limit its disclosures to [Thomas] to tests from which affidavit data had been taken. Instead, it supplied all data available to it on related compounds." Finding 118 at 217 USPQ 544.

12. Thomas was told that RH had been unable to locate all the test data in its records corresponding to data recited in the affidavits filed with the PTO, and that there were data in its records that had not been initially reported to the PTO during the prior prosecution. Finding 119, at 217 USPQ 544.

13. Test data specifically identified and discussed indicated that propanil was not unique as a pre-emergence or general herbicide, that propanil, damages some crops, that related compounds displayed relatively high herbicidal activity, and that related compounds like DCAA and DCMVA possessed some selective, post-emergence herbicidal activity. Finding 120, at 217 USPQ 544.

14. Even though all data on propanil's herbicidal activity were not discovered by RH, "a search for all of such data was conducted." Finding 121, at 217 USPQ at 544.

15. The interview lasted about 2½ hours, which is "considerably longer than normal interviews." Finding 123 at 217 USPQ 545.

16. Following the interview, RH filed an amendment summarizing the interview. It offered again to supply more information and copies of any document discussed. Finding 124, at 217 USPQ at 545.

17. At the conclusion of the interview, RH was of the good faith belief that Thomas appreciated the information supplied and its implications. He was again reminded of these disclosures at a subsequent interview, and he told RH that he was fully satisfied and required no further information. Finding 125, at 217 USPQ 545.

18. Regarding the affidavits relied on by RH during prosecution: "As defendants argued and as plaintiff has admitted, at the time the six allegedly defective affidavits were submitted on the Patent Office, all of the test data were not disclosed in the affidavits." The employee who prosecuted the application and decided which data to submit died before its issuance, and "the reason behind his actions were not disclosed during the trial * * * and it has been represented to this Court that such motives, if any, are not known." Although not wholly a finding of fact, the court also here stated: "What is important to this Court's inquiry into the validity of Rohm and Haas' patent in light of defendants' fraud allegations is the fact that McRae, the person who executed but did not prepare the affidavits, believed such affidavits and the assertions contained in such affidavits to be accurate." [2] RH informed Thomas of the omissions of test data from the affidavits and supplied to the extent possible the omitted data and all other herbicidal data in RH's possession. "Consequently, the Court is of the belief that all of the deficiencies which existed in the prosecution of the three Rohm and Haas patent applications from 1958 to 1963 were corrected by the

[2] As hereinafter explained, McRae's good faith belief is not controlling.

complete and detailed disclosure of herbicidal data and information to the Patent Office in 1973; such disclosure was made within sufficient time for the Patent Office to take whatever action it deemed necessary." No claims had been allowed prior to RH's "full disclosure in 1973," except claim 9 "which had been allowed for interference purposes only and had been cancelled subsequently." Finding 128 at 217 USPQ 546.

19. RH's dealings with Thomas during renewed prosecution of the 1961 application "were reasonably based on its belief that patent examiner Thomas was qualified as an expert in the herbicide field, experienced in the prosecution of patent applications, and able to read and comprehend herbicide data sheets of the type that was discussed" during the interview. Finding 129, at 217 USPQ 546.

The trial court filed 133 Conclusions of Law. Based on the above summarized findings of fact, and in view of Fifth Circuit precedent on "fraudulent procurement" (Conclusion 32), it stated a single conclusion with respect to Crystal's assertions of fraud in the PTO, which we quote verbatim:

33. After carefully reviewing the record in this cause regarding the prosecution of the Rohm and Haas patent application in light of the arguments raised by the defendants, the Court concludes that defendants have failed to carry the burden and adduce sufficient probative evidence to establish that Rohm and Haas procured the patent in suit by fraud or inequitable conduct. The record of the prosecution of plaintiff's patent application, particularly that part of the record regarding the renewed prosecution in 1973, unequivocally indicates that the patent examiner was fully informed of all the factors material to the patentability of the methods claimed in plaintiff's patent. Refer to Findings 108-123, 128, 129. Although there is evidence that Rohm and Haas

omitted herbicidal test data from affidavits submitted during early prosecution of plaintiff's patent application, these omissions were brought to the patent examiner's attention during the renewed prosecution of the patent in suit. Moreover, Rohm and Haas provided the patent examiner with the omitted data, where possible, and all additional herbicidal data in its possession. Refer to findings 117-120. Nor can the Court find fault sufficient to warrant a finding of fraud or inequitable conduct with the oaths executed by Wilson and McRae and contained in the 1960 and 1961 applications. Refer to Findings 70, 80. Consequently, the Court is unable to conclude that the patent in suit was procured by fraud. Refer to Findings 28, 29. [Case citations omitted; 217 USPQ at 571.]

B. *Arguments on Appeal*

1. *Crystal*

Crystal admonishes that the trial court's opinion "totally overlooked R&H's most egregious misrepresentation." We certainly agree that the facts revealed by the arguments on appeal are nearly wholly absent from the opinion below.

Crystal states that propanil was compared to DCAA (3,4-dichloroacetanilide, its adjacent lower homolog) in Affidavit D which was submitted during prosecution of the 1960 application on July 11, 1961, and during prosecution of the 1961 application on July 20, 1961. Apparently, a first draft of the affidavit was destroyed and another one containing different comparative data was substituted. Crystal asserts that the first draft contained data from propanil versus DCAA tests run in December, while the second affidavit compared propanil kill data from the December tests and DCAA kill data from tests run in May, a time of year when plants are well known to be more resistant to herbicides. A June 21, 1961, letter from the R&H patent department to R&H's Washington counsel explains:

> You should discard the copy of the Affidavit which I left with you, since this new Affidavit is expanded from the old one. In the old one, we were perturbed by the comparison of [propanil] with [DCAA], since it seemed to be the one weak spot in the Affidavit and might have given the Examiner and/or Board the opportunity to say that the two differ only in degree and not in kind. These new data obtained relatively recently remove any doubt on this score. In case you are wondering how it is possible to get two such different sets of data on the same compound I should point out that the time of year at which the plants are grown has a very real effect on their resistance to kill.

Crystal states that both McRae and Wilson acknowledged that one comparing such data would need to know that the tests were run at different times in order to properly evaluate the data, and emphasizes that these new data showed that at one pound per acre DCAA had zero effect on 13 of 15 plants tested, whereas the original December data showed the DCAA had kill rates ranging from 20% to 100% on 8 different plants. Crystal provides the following chart comparing the data presented with the data withheld:

DCAA
% Post-Emergence Phytotoxicity at 1 lb./acre

	DECEMBER DATA	AFFIDAVIT D
Crabgrass	50	0
Foxtail	0	0
Millet	20	0
Wheat	0	0
Ryegrass	0	0
Wild Oats	70	0
Sudan grass	20	0
Mustard	20	0
Lamb's Quarter	100	0
Curly Dock	60	0
Pigweed	100	0
Bean	0	0
Flax	0	0

Crystal also states that R&H deleted the May data ["AFFIDAVIT D"] that showed two plants to have been affected by DCAA (wild carrot at 60 and indian mallow at 70). It is emphasized by Crystal that the May data shown above were submitted in the affidavit which contained the December propanil data. R&H's communication to the PTO which accompanied this affidavit stated that the "Affidavit shows comparisons of the herbicidal activity of [propanil] with [nine] compounds which are all homologs, analogs or position isomers of [propanil]." R&H continued:

> It is clearly evident from the data in the Affidavit that [propanil] is truly unique in its herbicidal activity when compared to this group of closely related compounds.
>
> Particular attention is drawn to the data in Table III, in which [DCAA], the compound relied upon most by the Examiner in the parent case, is compared with [propanil]. *The 3,4,-dichloroacetanilide [DCAA] is valueless as a post-emergence herbicide whereas the [propanil] is substantially 100% effective.* [Emphasis in the original by R&H patent department.]

Turning to what it calls the "affidavit E misrepresentations," Crystal states that despite affidavit D, the examiner refused to withdraw his prior art rejection. He questioned whether DCIBA (3,4-dichloroisobutyranilide, another homolog) and DCMVA (3,4-dichloroalphamethyvaleranilide, another homolog) would not also be selective herbicides if applied at low rates, and requested R&H to submit appropriate data. He also questioned whether DCAA would be effective when applied at higher rates and requested that R&H submit data on DCAA at 10 lbs./acre.

Crystal submits that tests of DCAA on eight different crops and fourteen different weeds at 10 lbs./acre showed that DCAA had injury rates of 80% to 100% on six of

the weeds, and that rice, wheat, ryegrass, tomatoes and barley were tolerant at this rate. Crystal asserts, however, that in preparing affidavit E R&H selected data on eight of the weeds taken three days before the end of the test period (showing 0% to 25% activity) and omitted all data showing high phytotoxicity[3] of DCAA. It is also submitted that R&H did not mention data which showed selectivity on ryegrass (25%), tomatoes (0%), barley (30%), and two varieties of rice known as Bluebonnet (0%), and Gulf Rose (0%).

With respect to DCIBA and DCMVA, Crystal states that the test results at 1/8 and 1/4 lb./acre showed DCIBA had no effect on rice, and little effect at higher rates, although it was highly phytotoxic to a number of weeds at those rates. The results also showed, it is stated, that DCMVA had a very low effect on rice at these low rates. Crystal suggests that R&H could not merely omit unfavorable data because all of the DCIBA and DCMVA data were unfavorable. Crystal states that R&H changed it.

> They simply took the data which showed no or very little effect of DCIBA and DCMVA on rice, and raised the numbers. Thus, 0% became 30% to 40%, 10% became 45% or 65%, 15% became 70% or 90%, and 30% and 40% became 100%. For the convenience of the Court the data submitted to the PTO compared to the actual data is presented below:

DCIBA DATA

	AFFIDAVIT E		ACTUAL DATA	
lbs/acre	Gulf Rose	Blue Bonnet	Gulf Rose	Blue Bonnet
1/8	30	35	0	0
1/4	40	45	0	10
1/2	65	70	10	15
1	90	90	15	20
2	100	100	40	30

[3] Phytotoxicity refers to a substance's tendency to inhibit the growth of or to poison plants.

> * * * Furthermore, on crops other than rice they selected some data from preliminary readings taken January 12, and some from final readings taken January 15. In each case only the higher number was reported to the PTO, thereby portraying, an edited, worst possible case for DCIBA and DCMVA activity.

Additionally, Crystal notes that R&H omitted all data showing that carrots were tolerant to DCIBA and DCMVA.

In concluding its discussion of what R&H did, Crystal states that the examiner accepted the affidavit representations concerning DCAA, DCMVA, and DCIBA as sufficient to overcome all rejections: "Thereafter the rejections over the Fischer, the CBCC article and the Bielstein reference were withdrawn, the broadest, primary claim—claim 9—was held allowable, and an interference was declared * * *. These prior art references were never again asserted by any PTO Examiner as a basis for rejecting or limiting any claims."

In light of the above facts, Crystal argues that the "subjective but for" test of materiality has been satisfied, citing *Norton* v. *Curtiss*, 433 F.2d 779, 167 USPQ 532 (CCPA 1970). It also asserts that "Virtually identical procedural circumstances" that led the Third Circuit to affirm the trial court's determination that Monsanto's claims to propanil per se were invalid for fraud in the PTO are presented here. *Monsanto Co.* v. *Rohm and Haas Co.*, 312 F. Supp. 778, 164 USPQ 556, and 165 USPQ 683 (E.D. Pa. 1970), *aff'd*, 456 F.2d 592, 172 USPQ 323 (3d Cir.), *cert. denied*, 407 U.S. 934 (1972).

Crystal also states, and we agree, that the court was in error in saying that "what is important to" the court's inquiry into fraud is "the fact that McRae, the person who executed but did not prepare the affidavits, believed that such affidavits and the assertions contained in such

affidavits to be accurate." *See* footnote 2 supra. Crystal emphasizes that intent is not often demonstrated by direct proof, but only by circumstantial evidence, and that

> It is undisputed that the purpose of the affidavits was to convince the Examiner that propanil was unique in being a selective, post-emergent herbicide * * *[; that] McRae admits that he knew the purpose of affidavit E * * *[;] that he knew that the data he had actually observed during the rice tests confirmed that DCIBA and DCMVA were selective to rice* * *[; that he] knew the tests from which the affidavit E data were taken were run specifically for the purpose of responding to the Examiner's request for additional data * * *[; and that he] knew that R&H field test data showed that DCIBA was selective on a number of crops, and in fact was more useful on some crops* * *. Dr. Myers, R&H's registered patent agent, in the "remarks" section of an amendment accompanying affidavit E, replied to the Examiner's question regarding the herbicidal activity of DCIBA and DCMVA at lower application rates representing to the PTO that "Dr. McRae has undertaken tests in the greenhouse along this line * * * [t]he results are summarized in the TABLE on page 46 of Dr. McRae's Affidavit, and should clearly be a *complete answer to the Examiner's question.*" Myers went on to represent to the PTO that based on this affidavit DCIBA and DCMVA were "completely unsuitable for weed control * * * there is complete *lack* of the remarkable selectivity shown by [propanil] * * *. [Emphasis added by Crystal.]

Crystal also states that both McRae and Myers knew that the data compared in Affidavit D were taken from different times of the year and that, thus, while accurate they were not fair. It is further argued that both reliance on the misrepresentations and injury to the public are manifest.

Turning to the effect of the renewed prosecution in 1973, after the interference, Crystal asserts that the court "erred in concluding that the February 16, 1973 representations to Examiner Thomas were effective retractions or corrections of the acts of fraud completed during 1958-63." First, Crystal argues that this conclusion is based on inadmissible evidence (memoranda of R&H's lead counsel concerning the interview) and testimony (that of R&H's lead counsel) that was heavily relied upon. Prior to trial, Crystal asserts, it sought production of the documents relied on and R&H refused to produce them on the grounds of privilege and work product. Thus,

> * * * Appellants objected to their admission on the ground of (a) the previous refusal to produce, (b) the lack of opportunity to discover other attorney documents and depose witnesses concerning the subject matter of these exhibits, (c) irrelevance, since they were offered solely to support Hutz' testimony, and (d) hearsay, since they were offered to prove the truth of the statements made therein * * *. Appellants also moved to reopen discovery to inquire into any other documents which might exist relating to this subject matter * * *. However, the Trial Court overruled both the objection and the Motion * * *.

Second, Crystal argues that the information supplied to the PTO in 1973 was legally ineffective because the alleged attempted retraction of material misrepresentations occurred only after prosecution on the merits had been closed, citing *Penn Yan Boats, Inc.* v. *Sea Lark Boats, Inc.*, 359 F. Supp. 948, 964-65, 175 USPQ 260, 271-72 (S.D. Fla. 1972), *aff'd*, 479 F.2d 1328, 178 USPQ 577 (5th Cir. 1973); *Tipper Tie* v. *Hercules Fasteners*, 130 F. Supp. 3, 9, 105 USPQ 182, 187 (D. N.J. 1955), *aff'd*, 232 F.2d 635, 109 USPQ 373 (3d Cir. 1956); *Louis A. Grant, Inc.* v. *Keibler Industries, Inc.*, 377 F. Supp. 1069, 1082, 181 USPQ 1, 10-11 (N.D. Ind. 1973), *dis-*

missed, 541 F.2d 284 (7th Cir. 1976), for the proposition that such retractions must be made before the receiver acts in reliance on the misrepresentation. Crystal argues that prosecution on the merits was effectively closed because Examiner Thomas' decision would have been based on the written record after the interview. Thomas stated on deposition (1) that the interviews were just considered "friendly discussion," and that no review of the file was made prior to the interview; (2) that he would have had "no interest * * * at all" in the interference record; (3) that at the time of the interview the subject matter of the 1961 application had been allowed and the question of patentability was not before him; (4) that he had not been aware of Judge Masterson's "disingenuous" comment in the *Monsanto* case; (5) that he was not aware of DCAA data omission in the Monsanto application (which he did not examine) and was not aware of any DCAA data omissions in R&H's application, or for that matter any other data omission; and (6) that he would not have considered the raw data sheets unless they had been submitted to him for inclusion in the written record.[4] Because "the only difference between [allowed] claim 9 and claim 1 of the [RH] patent is the substitution of the word "established" for "agronomic," Crystal says that

> * * * the Trial Court's reference to the fact that only claim 9 had been allowed in 1963, that it had been allowed for interference purposes only, that is [sic] had been cancelled and replaced by a claim which became claim 1 of the Wilson patent, and that nothing whatsoever prevented Examiner Thomas from

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[4] Thomas was then asked, however, "But if the events which I have described to you happened, it would be difficult to put all of that material in the record. So what you do—in fact, what the rules want you to do is make a summary of what happened at the interview, is that correct? In other words, the record is a summary of what happened." Thomas responded: "At that time, we suggested that should be done by the attorney. Yes."

rejecting claims after allowance of claim 9 clearly reveals a lack of understanding of patent examining procedure, and in particular reveals misunderstanding concerning what issues the Examiner actually was considering on his own volition compared to those issues he was relying on R&H to identify. Contrary to the inferences drawn by the Trial Court from the general testimony of Examiner Thomas, the Examiner's specific testimony demonstrates that (a) he was not interested in disturbing the prior decision on patentability; (b) he was interested only in what was "important", which he relied on R&H to bring to his attention; and (c) never in his 27 years of experience with the PTO had anyone brought to his attention their prior fraud.

Third, Crystal argues that "the raw data submissions to the examiner were too complicated and were presented too quickly to have been effective retractions or corrections of the previous misrepresentations." Crystal emphasizes that about 3,771 pages were presented to Thomas at the interview, some 1,326 of these being the "500,000 series documents." [5] It is also emphasized that the com-

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[5] In addition to "nearly 900 pages of data on 182 compounds," Crystal points out that nearly 1000 pages of other documents were referred to in ensuing discussions of: the invention dates awarded by the Board of Interferences; the litigation with Monsanto; Monsanto's settlement with R&H; new claims 26-39 to be added to the application, and the support alleged to exist in the 1958 application for each new claim; the invention as described in the new claims with explanation of the use of the word "emerged" therein; the district court's finding 49 in the Monsanto litigation and its revision; references in R&H's appeal brief to unique activity of propanil; a paper prepared by FMC; R&H's worldwide sales; publications on propanil with an explanation of a list of such publications; R&H's foreign patents; eleven specific publications concerning propanil; two McRae publications concerning activity of propanil and other anilides with particular reference to rice; what propanil was not; crops which were not tolerant to propanil; prior art search by R&H; prior art previously cited by the PTO; the

pounds tested are variously referred to on the raw data sheets "by code names, structural formulae, chemical formulae, chemical names, and tradenames; the test data are taken at various application rates, some of which are expressly noted, some of which are coded; the test data are taken variously as single data points and as multiple data points; and the tests were run on a variety of plants and under a variety of test conditions."

Crystal notes that

> When R&H wanted the PTO to act in reliance on its data submissions, these raw data were converted into a form—Tables—in which meaningful comparison could readily be made by the PTO examiner. * * * However, in 1973 when R&H "supplied to the extent possible" the data to the PTO *only the raw data were presented.* * * * Furthermore, Hutz admits that he made no effort to point out to Examiner Thomas that affidavits D and E had been presented to Examiner Meros, the reasons for the filing of the affidavits, the representations that had been made concerning the data in the affidavits, the fact that affidavit E had been submitted specifically in response to Examiner Meros' request for additional data, or the effect that the affidavits had. Instead, Hutz testified that he merely showed the Examiner the data longside the affidavits, and let the Examiner draw his own conclusions * * *.

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applicability of a German application as a reference with reference to the appendix of the R&H Brief on Remand in the 1963 interference; whether Monsanto's patent was applicable as a reference; Monsanto's allegations during the 1963 interference that R&H was not entitled to a conception date of April 4, 1957; Takematsu's work on rice and the relationship to R&H; Monsanto's Rule 56 motion during the 1963 interference, R&H's reply, and the Commissioner's decisions; Takematsu's paper as a printed publication; and the Third Circuit Appendix with a page by page explanation (549 pages) of relevancy, meaning, and content of Monsanto's affidavit compared to Monsanto's data.

> Furthermore, in his remarks filed later, purporting to summarize what took place at the interview, Hutz made no mention of comparing data with any affidavit, or of any "omitted" data or other misrepresentation.

Fourth, Crystal alleges that "the trial court erred in determining that R&H was entitled to rely on Examiner Thomas." Instead, it is argued:

> The record cannot be more clear that he was relying on R&H to bring to his attention anything of importance and bring it to his attention in the written record * * *. There is simply no proposition of law, nor basis in the factual circumstances of this case that R&H was entitled to rely on Examiner Thomas to ferret out discrepancies between affidavit table data submissions made in 1961-62 and raw data presented to him once during an interview in 1973. * * * [I]t was the PTO Examiner who was entitled to rely, and who actually did rely, on R&H to fully and specifically inform him of any corrections or retractions relevant to the already-determined patentability of the claims and to do so in writing * * *.

Finally, Crystal contends that, in any event, "once fraud on the PTO has been committed, it cannot be corrected," citing *Ex parte Mallard*, 71 USPQ 294 (Comm'r Pat. 1946) and *Kuzel* v. *Heany*, 1911 C.D. 148 (Comm'r Pat. 1910).

In light of the above arguments, Crystal concludes its discussion of fraud by maintaining that during the post-interference interview R&H continued to conceal effectively the previous wrongs by burying the relevant data in a mountain of irrelevant information.

2. *Rohm and Haas*

Dozens of issues were considered and resolved by the trial court, many involving Crystal's antitrust counterclaims under sections 1 and 2 of the Sherman Act and

section 3 of the Clayton Act. Although comparatively few "findings" and only one "conclusion" of the court are devoted to the fraud allegations, R&H devoted almost forty percent of the "Argument" portion of its brief to this issue, as did Crystal.

Preliminarily, we note that nowhere does R&H deny the facts that underlie Crystal's allegation of fraud with regard to affidavits D and E. R&H variously characterizes those facts simply as "defects which they claim existed," "all deficiencies which may have existed," or in terms like "whatever those deficiencies may have been," and so on.

The R&H argument is directed solely to contentions that no fraud or inequitable conduct was proved because, ultimately, R&H "made a complete disclosure of all material facts."

R&H makes the following assertions regarding the 1973 interview:

> (1) it was decided that six broad areas should be discussed—new claims; Dr. Takematsu's alleged publication in January 1959; Dr. Takematsu's status as a purported independent inventor; Monsanto's attack on R&H's conception date; prior art; and the herbicidal activity of propanil and chloroanilides having a related chemical structure.[6]

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[6] With respect to Crystal's argument that true appreciation of the presented material was not possible in the time of the interview, R&H states: "This ignores the intense preparation which preceded the interview, the expertise of Dr. McRae and Examiner Thomas, the Examiner's prior review of, and participation in, the earlier prosecution of the 1961 application, and the documents left with Examiner Thomas, all of which enabled full disclosure and understanding in a relatively short period of time. Examiner Thomas reviewed the extensive documents left with him. Additionally, contrary to defendant's unsupported speculations, there was no time limit for the interview, and it was conducted at a speed consistent with Examiner Thomas's wishes and his comprehension of the data."

(2) in view of the implications of *Monsanto*, R&H undertook to collect *all* herbicidal data records for related compounds available to R&H from any source.

(3) counsel prepared a list of the McRae affidavits, identifying them as "A" through "E", correlated them to the original data records, and designated the records accordingly.

(4) the knowledge that Thomas was an expert in both patent law and the herbicide art, and that he possessed extensive background information about the previous prosecution, strongly influenced the manner of data presentation at the interview.

(5) the documents were arranged in logical sequence on conference tables and, after a general discussion of the purposes of the interview, the documents were placed before him for explanation and review. Thomas was advised before and after the interview that he should ask any questions which came to mind, makes notes, request any document that he wished, and that the interview was for his benefit and would be conducted in accordance with his wishes.

R&H asserts that it discussed the following matters at the interview:

(1) the prior Monsanto litigation and interference history, including the finding of fraud due to, inter alia, Monsanto's withholding of herbicidal data. Thomas was also advised of Monsanto's contention that R&H had not disclosed to the PTO all herbicidal data in its files, and of Judge Masterson's comment regarding "equally disingenuous" conduct.

(2) the herbicidal activity of propanil and related compounds by reference to (a) data from Monsanto's files, (b) original R&H laboratory notebook rec-

ords, (c) publications by Monsanto, R&H, and others, (d) internal R&H memoranda, (e) Greenhouse Biological Evaluation Sheets, (f) the *Monsanto* decisions, and (g) the R&H applications and prosecution histories themselves.

(3) "As to the McRae affidavits, Rohm and Haas specifically compared the data reported therein with the underlying records from which the data had been taken to give the Examiner a complete and side-by-side picture of what had and had not been originally before the PTO."

(4) "The existence of some selective activity for related compounds (e.g., 3.4-DCiBA and 3,4-DCMVA, *which were not in the prior art*, and 3,4-DCAA which was a known compound but *not recognized as a selective, post-emergence herbicide*) was shown not only by the data records discussed at the interview but also by (1) express statements of selectivity in the Wilson applications as filed, which the Examiner had read, (2) the previously filed McRae affidavits, (3) finding 49 in the *Monsanto* decision [sic, opinion], and (4) publications present at the interview, discussed with the Examiner and left with him for further study." [Emphasis by R&H. Unless otherwise noted, record and exhibit references omitted in all quotes from briefs.]

R&H also states that "On December 12, 1973, a final interview was held with Examiner Thomas [at which R&H] 'summarized the history of the interference and litigation, Monsanto's fraud, our prior prosecution, our prior affidavits, Fred Myers' problems and failure to present all available data (both good and bad) and our subsequent complete disclosure to Thomas'. Against this background, the Examiner was asked what additional information or data, if any, he desired, and Examiner Thomas answered, 'none'." From all of this, R&H asks

us to conclude that Crystal's "fraud by burying" assertions are untenable.

With respect to Crystal's fraud arguments, R&H first notes that Crystal's emphasis on the pre-1973 prosecution totally ignores

> * * * the well-established law that an applicant's conduct must be evaluated when the patent claims are finally allowed. The law does not examine an applicant's prosecution at intermediate points in a multi-year prosecution, conclude patent-defeating behavior due to temporary withholdings or misstatements, and then shut its eyes to the later presentation of corrective information prior to allowance of the patent. The pertinent inquiry is whether the Examiner received complete and accurate information during prosecution within sufficient time to act upon it before he allowed the claims.

R&H also maintains that Hutz' testimony and related documents were properly admitted as rebuttal evidence. R&H points out that Crystal did not seek production of those documents by motion to compel, nor did Crystal seek to depose any witness other than Hutz and McRae regarding the circumstances of the interviews.

R&H declares that Crystal's assertion that prosecution on the merits was closed by 1973 "is belied by the Examiner's ready rejection of claims during the renewed prosecution." Further, R&H contends that Thomas readily understood its interview disclosures. With respect to the written record:

> Even assuming that the amendment following the interview did not provide adequate detail, this does not undercut or render "clearly erroneous" the Trial Court's express findings that detailed disclosure of all material facts was made. Those findings are based upon *all* of the evidence *including* a determination upon observation of the credibility of Mr. Hutz

> and Dr. McRae, who testified at length as to what occurred at the interview. A technical defect in the description of the interview would not change the complete disclosures made to Examiner Thomas. Moreover, the record establishes that there was no defect in the description. Defendants' complaint totally overlooks Rohm and Haas' preservation of the documents and notes thereon which, together with the summary remarks in the amendment which followed the February, 1973 interview, constitute a complete and accurate record of what was discussed. [Emphasis by R&H].

R&H further states that "Defendants' contention that Mr. Thomas had to be expressly told about each prior rejection and how each affidavit responded to each rejection is fallacious." It contends that R&H "was entitled to rely on the reasonable belief that the Examiner had taken its disclosures into account when allowing the Wilson application," for it "placed evidence before the Examiner that it reasonably believed *should have* alerted the Examiner to the true state of the facts." [Emphasis by R&H].

Responding to Crystal's argument that fraud cannot be corrected, R&H says that "The law plainly holds that the question of 'correction' is properly assessed at the end of the prosecution where the bases of allowance can be accurately determined," citing a number of cases.

R&H also stresses that the district court properly determined that R&H acted in good faith, although that finding is only with regard to the alleged attempted cure. While Crystal argues that R&H did not apprise the PTO that the test data obtained for DCAA were obtained from tests run at different times and that Dr. McRae knew the tests would guarantee different results, R&H counters that it "presented *all* available herbicidal data to the Examiner, and this gave the Examiner a basis for reaching his own conclusion as to the alleged similarity

of [DCAA] to propanil in its 'selectivity as to rice and tomatoes'." (Emphasis by R&H.)

> Defendants' assertion that Rohm and Haas' representatives had "no intention" to discuss alleged deficiencies in the McRae affidavits is untenable. This accusation begins with the legally false premise that Rohm and Haas' complete disclosure to the PTO had to be coupled with some sort of statement that the facts disclosed rendered the application improper; that is not the law. The purported admissions of counsel were never made. * * * Rohm and Haas did precisely what was required, namely it submitted and explained all of the material facts and permitted the Examiner to draw on his own evaluative expertise and reach his own decision with knowledge equal to Rohm and Haas. The records of the information made available to Examiner Thomas do not reflect an intent to withhold anything from the Examiner. They confirm the intent to make a complete and honest disclosure, answer any questions, and submit any documents, all to an official of the PTO (others had been invited) with years of experience and clothed with the PTO authority to take whatever action the PTO deemed appropriate.

Finally, additional to the above, R&H argues that the criticized data were neither material nor relied on by the PTO, because "the alleged deficiencies in the original prosecution *did not result in the allowance of any claim in the Wilson patent.*" (Emphasis by R&H.) R&H stresses that the patent did not issue until about a year after the interview and that, "During that year the application was twice rejected by Examiner Thomas, and the claims at issue were *thereafter allowed.* Thus, unlike most cases where fraud and inequitable conduct are alleged, the Trial Court was not compelled to speculate on the probable impact of the alleged withholdings on the

ultimate issue of patentability. The Patent Office, with *all* of the *criticized* herbicidal data before it, found the data *did not detract from patentabiilty.*" Further,

> Defendants concede that propanil possesses "truly remarkable and completely unexpected" properties when used as a selective, post-emergence herbicide in rice and that those properties "resulted in the outstanding success of propanil both in the United States and throughout most of the world." At the same time, defendants contend that propanil's herbicidal activity differs in an insignificant manner from the activity of structurally related, prior art compounds. The Trial Court rejected defendants' obviousness arguments and found that "the record demonstrates clearly that propanil's selective, post-emergence herbicidal activity is unique." We have set forth the evidence in support of this determination elsewhere in this brief. Suffice it to say, proof of this nature, i.e. commercial success, widespread publications and patents, industry acclaim, indifference to the related compounds, and the like, and *not any earlier affidavit showings*, was relied on to distinguish propanil during the renewed prosecution. [Emphasis by R&H.]

With respect to the prior art, R&H concludes as follows:

> Defendants' contention that the Fisher [sic, Fischer], CBCC and Bielstein references render the subject matter of the Wilson patent obvious and that these references were not employed to reject claims during the renewed prosecution thereby showing no disclosures were made is equally fallacious. First, Examiner Thomas was well aware of these references and prior rejections based thereon. Second, all such prior art was presented to and considered by the PTO during the renewed prosecution. Third, defendants do not even rely on Bielstein in support of their obviousness arguments and

> Bielstein was not listed in defendants' notice pursuant to 35 USC § 282. Fourth, the Trial Court specifically assessed both Fisher [sic, Fischer] and CBCC and found that neither reference rendered obvious the use of propanil as a selective post-emergent herbicide.

3. *Crystal's Reply*

Noting that courts have not required a showing on all the elements of common law fraud, although "the evidence clearly shows all the elements * * * exist with respect to the pre-interference prosecution," Crystal responds to R&H's argument on materiality:

> R&H does not deny (and there is no contrary Trial Court fact finding) that misrepresentations were made in the pre-interference prosecution, that those misrepresentations were made for the purpose of convincing the Examiner that claims should be allowed, that the Examiner relied upon those misrepresentations to allow claim 9, and that claim 9 is substantially identical to claim 1 of the patent in suit.

With respect to R&H's argument that Examiner Meros could have relied on commercial success, Crystal states that

> * * * it is significant that R&H patent agent Myers emphasized in his post-interview memo the effect of the test data, but was silent on the effect of the commercial success. Also, propanil's commercial success resulted from other factors * * *. Moreover this information on commercial success is not available to rebut the *prima facie* case of obviousness on the broad, generic claims because the information relates solely to commercial success on *rice* * * *. [Emphasis by Crystal.]

Aside from this, says Crystal, "it is not necessary to prove that the comparative test data misrepresentations

were the *only* evidence the Examiner considered in allowing claim 9; it is sufficient that it 'resulted in substantial measure' from representations made in affidavits."

Crystal, for the most part, summarizes its previous arguments regarding intent and reliance, and states that "No matter what the law on timeliness of a retraction or correction, none occurred here."

Crystal states that for Thomas to have been aware of the significance of the data, it would have been necessary for him to have in mind, during the interview, the specific deficiencies in the various affidavits, the relationship between those deficiencies and the prior art rejections by the then examiner, and the various representations that were made concerning the affidavit data:

> The Trial Court did not find either that any of this was told to Examiner Thomas at the interview or that he was otherwise aware of it. R&H does not contend that any of this was told to him. The only affirmative, uncontradicted, and unbiased evidence on this point is Thomas' testimony, which is that he knew nothing of any fraud.

Crystal points out that, while Thomas' memory was dim on much of what took place at the interview, he was quite clear on what did not take place. "In the 27 years of my Patent Office career, those things [affidavit misrepresentations] have not been pointed out to me, never." Crystal further states that "Hutz testified nearly two months after Thomas, and had full opportunity to directly and affirmatively contradict Thomas' testimony. However, he did not. Instead, he testified that he merely let Thomas 'draw his own conclusions' ":

> By his handling of the interview and *his failure to make of record* in the PTO any documents from which it could be determined that misrepresentations had been made, Hutz effectively precluded Thomas from independently making the necessary compari-

> sons in examining the application and the new claims presented in the later amendments. At the interview itself Hutz talked about numerous items, leaving the alleged data comparison until last. By this time Thomas, understandably, "just wanted them to leave." Following the interview, the R&H data sheets were taken back to Hutz' office, and Thomas never saw them again. Then Hutz, while purporting to file a paper "summarizing" what took place at the interview, went into detail concerning all the things discussed at the interview *except the alleged comparison of data with the affidavits.* This is not mentioned at all. Nor is any mention made about any problem with any affidavit. [Emphasis by Crystal.]

Continuing, Crystal contends that

> R&H relies heavily on the fact that the Trial Court found that R&H "informed patent examiner Thomas of the omissions of herbicidal test data from the earlier filed affidavits," and that R&H "supplied to the extent possible the omitted data." If these findings mean that R&H exhibited to Thomas the test data from which the affidavits were derived, and told Thomas there were data that were not shown in the affidavits, then they are at least supported by testimony of Hutz and McRae. However, if these findings are construed to mean that Thomas *learned* that misrepresentations were made, they are clearly erroneous. There is no evidence to support such findings. [Emphasis by Crystal.]

Crystal makes the same argument with respect to the conclusion by the district court that "the record * * * indicates that the patent examiner was fully informed of all factors material to the patentability of the methods claimed * * *."

Crystal again argues that the court abused its discretion in admitting the Hutz testimony and documents rele-

vant to the interviews while denying it an opportunity for discovery, and adds that it was error for the court to place controlling weight on the testimony and memoranda of R&H's trial counsel.

Finally, Crystal continues to maintain that the post-interference allowance of claims by Thomas was not based on a re-determination of the § 103 issue passed on earlier by Meros, and that the 1973 "disclosure" concealed rather than revealed. R&H seeks

> * * * to explain the large number of data sheet documents as being necessary to comply with their duty of candor. However, neither the *Monsanto* court, Mr. Dunner [Crystal's patent law expert witness], nor any other authority has stated that the duty of candor requires the submission of *all* data on *all* compounds tested, whether or not they were prior art. [Emphasis by Crystal.]

Crystal says a total of 14 pages would have sufficed to have shown the truth of matters discussed in the affidavits.

OPINION

The questions presented by Crystal's allegation of fraud in the PTO are:

1. Did R&H intentionally make material misrepresentations to the PTO?
2. If it did, could that conduct have been "cured" during prosecution by subsequent disclosure to the PTO before the patent issued?
3. If R&H prosecution activities were illicit, yet could have been "cured," was R&H's 1973 interview disclosure sufficient to that end?

I.

R&H has not denied Crystal's key factual assertions that data in Affidavit E were falsified and that the differ-

ing experimental conditions that lay behind the data comparison in Affidavit D were not revealed to the PTO. Nevertheless, it argues (1) that this activity does not amount to fraud because the affidavits were not material and because (2) the intent of the deceased patent agent who prepared the affidavits is not known.

It cannot be disputed that the purpose of the affidavits was to overcome prior-art rejections that had been entered by the examiner. R&H wished to overcome those rejections by demonstrating the allegedly unique activity of propanil when compared with a number of other closely related compounds. Findings of Fact 81 and 82 at 217 USPQ 536 and 537. Although the examiner did not retract his rejections on consideration of Affidavit D, the rejections were withdrawn and claim 9, the broadest claim in the application, was allowed after presentation of Affidavit E, wherein R&H advised that the data (which were falsified) "should clearly be a complete answer to the Examiner's question" and that the related compared compounds "were completely unsuitable for weed control" and showed a "complete lack of the remarkable selectivity shown by [propanil]." Thus the affidavits were material and the misrepresentations therein were material. In contrast to cases where allegations of fraud are based on the withholding of prior art, there is no room to argue that submission of false affidavits is not material.

It cannot be said that these misrepresentations to the PTO were the result of an honest mistake. *Cf. Norton* v. *Curtiss*, 433 F.2d 779, 794, 167 USPQ 532, 544 (CCPA 1970). While direct proof of intent to mislead is normally absent, such submissions usually will support the conclusion that the affidavit in which they were contained was the chosen instrument of an intentional scheme to deceive the PTO. In any event, proof of the actual state of mind of the applicant or persons associated with or representing an applicant is not required. "The intent element * * * may be proven by a showing of acts the

natural consequences of which are presumably intended by the actor." *Kansas Jack, Inc.* v. *Kuhn*, Appeal No. 83-638/643, slip op. at 11 (Federal Cir. Oct. 12, 1983). Thus, the trial court's assertion that "what is important" to the fraud inquiry was affiant-inventor McRae's actual state of mind was legal error. Question "1" must be answered in the affirmative.

II.

Crystal argues that "Once fraud on the PTO has been committed, it cannot be corrected," citing cases supra. R&H counters that the cases cited do not necessarily support such a broad proposition, attempting to distinguish them in a very brief discussion which concludes with the statement:

> The law plainly holds that the question of "correction" is properly assessed at the end of prosecution where the bases of allowance can be accurately determined * * *. The lower court properly found that all deficiencies which may have existed in the early period of prosecution "were corrected by the complete and detailed disclosure * * * in 1973; such disclosure was made within sufficient time for the Patent Office to take whatever action it deemed necessary" * * *. Law, logic and sound public policy clearly support this ruling.

R&H does not say what the policy considerations are.

Surely, a very important policy consideration is to discourage all manner of dishonest conduct in dealing with the PTO. At the same time, the basic policy underlying the patent system is to encourage the disclosure of inventions through issuance of patents. Another policy of the system is to stimulate the investment of risk capital in the commercialization of useful patentable inventions so that the public gets some benefit from them, which may not occur in the absence of some patent protection. Clearly,

we are faced with questions of both socioeconomic policy on the one hand, and morals or ethics on the other. We think we should not so emphasize either category as to forget the other.

Respecting the possibility of curing misconduct, we wish to focus as sharply as possible on the exact issue before us. In this case, we face specifically an assertion of invalidity of an issued patent, not a rejection by the PTO for "fraud" of a still-pending patent application. The assertion of invalidity, nevertheless, is based on what occurred during the prosecution of the application—more accurately, the whole sequence of, copending applications. The problem, therefore, is what, if anything, could have been done in the PTO during prosecution to cure or overcome misconduct consisting of intentional misstatements of asserted material facts so as to have saved the later issued patent from the consequences of the misconduct. We are not dealing with the question of what, if anything, can be done *after* the patent issued to alleviate the effect of misconduct, as did one of our predecessor courts in *In re Clark*, 522 F.2d 623, 187 USPQ 209 (CCPA 1975) (unsuccessful attempt to overcome failure to inform the PTO of highly relevant prior art by reissue of patent).

Specifically, the narrow issue we now deal with is whether voluntary efforts during prosecution by or on behalf of an applicant, knowing that misrepresentations have been made to the examiner of his application, can ever alleviate its effect. Taking into account human frailty and all of the objectives of the patent system, we think it desirable to permit misdeeds to be overcome under certain limited circumstances.

The first requirement to be met by an applicant, aware of misrepresentation in the prosecution of his application and desiring to overcome it, is that he expressly advise the PTO of its existence, stating specifically wherein it resides. The second requirement is that, if the misrepre-

sentation is of one or more facts, the PTO be advised what the actual facts are, the applicant making it clear that further examination in light thereof may be required if any PTO action has been based on the misrepresentation. Finally, on the basis of the new and factually accurate record, the applicant must establish patentability of the claimed subject matter. Considering the overall objectives of the patent system, we think it desirable that inventions meeting the statutory requirements for patentability be patented and, therefore, we also think it desirable to reserve the possibility of expiation of wrongdoing where an applicant chooses to take the necessary action on his own initiative and to take it openly. It does not suffice that one knowing of misrepresentations in an application or in its prosecution merely supplies the examiner with accurate facts without calling his attention to the untrue or misleading assertions sought to be overcome, leaving him to formulate his own conclusions. We therefore answer question "2", as posed above, in the affirmative.

III.

The final question, therefore, is whether R&H's 1973 "disclosure" sufficed to remedy its previous misconduct. We hold that, as a matter of law, it did not.

This court and others have held that the facts which may lead to a holding of "fraud" in the PTO must be proved by "clear, unequivocal, and convincing evidence." *Orthopedic Equipment Co.* v. *All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1383, 217 USPQ 1281, 1286 (Fed. Cir. 1983). Likewise, we now hold that where intentional material misrepresentations have been made, as here, a complete "cure" must also be demonstrated by clear, unequivocal, and convincing evidence. Because all business with the PTO is to be transacted in writing and its actions must be based exclusively on the written record, 37 CFR 1.2, this question of fact should never be difficult to resolve.

R&H relies almost wholly upon the fact findings by the trial court, but those findings make no mention of the misrepresentations made by R&H. They refer, for example, to Monsanto's contention regarding "withheld" data and the *Monsanto* court's "disingenuous comment." Finding 114. This may account for R&H's submission of all the propanil-related herbicidal test data it could discover, i.e., its attempt to cure any *Monsanto*-type problems by disclosing that "there were data in its records that had not been initially reported to the PTO." Finding 119. In view of this, the trial court found that R&H told examiner Thomas of the "omissions" of test data from the affidavits and supplied to the extent possible the "omitted" data and all other data it possessed. Finding 128.

Notwithstanding the court's Finding 118 that "to the extent that such base records could be reconstructed, they were identified, keyed to the prior affidavits, compared side by side with each of the affidavits and discussed with the patent examiner," the next Finding 119 emphasizes that "the patent examiner was informed that Rohm and Haas had been unable to locate all of the test data in its records corresponding to data recited in the affidavits filed earlier with the Patent Office." Which affidavit data could not be discovered is not mentioned by the trial court.

The trial court's Finding 125 that R&H was of the "good faith" *belief* that examiner Thomas appreciated the information supplied and its implications is irrelevant. In this matter, the PTO had to rely on the applicant but, despite R&H's lengthy interview summaries, *the record is devoid of any documentation showing that the PTO was told that any misrepresentations had been made or precisely where they had been made.* Such express disclosure was necessary to meet R&H's duty, and would have alerted the PTO to the necessity of reconsidering

rejections which had been withdrawn as a result of those submissions.

Considering the realities of the situation and all the items said to have been discussed with Mr. Thomas in the pivotal 2½ hour interview, we regard the court's conclusion of law that he was "fully informed of all the factors material to the patentability of the methods claimed," (Conclusion of Law 33) as unrealistic when the whole record is considered. The conclusion that he was "fully informed" rests solely on the presentation to him of a mountain of largely irrelevant data from which he is *presumed* to have been able, with his expertise and with adequate time, to have found the critical data. It ignores the real world conditions under which examiners work.

Although Thomas' deposition testimony indicates that he had forgotten nearly all of what happened at the interview, he was quite sure of what did *not* happen, stating that never in his twenty-seven years of experience with the PTO had anyone ever brought their prior misconduct to his attention. Therefore, and in view of the fact that there is no written evidence of any disclosure that there had been previous misrepresentations, to say nothing of their specific correction, we hold that the asserted "cure" was insufficient as a matter of law. Question "3" is answered in the negative.

Conclusion

The Wilson and McRae patent No. 3,816,092 is held invalid because of fraud in the Patent and Trademark Office in its procurement. The decision of the trial court holding it valid is therefore *reversed*, and the case is *remanded* for further proceedings consistent herewith.

Costs

We have considered appellants' "Motion to Tax Printing Costs" filed June 16, 1983, and appellee's opposition

thereto filed June 22, 1983. These two papers, filed before decision, deal only with the printing of the Combined Appendix of ten volumes said to contain a total of 9,307 pages, 5,743 of which were designated by appellee after appellants had initially designated the balance. There is an excessively detailed dispute over how many of the pages designated by appellee were necessary. Appellee appears not to have contributed to the cost of printing the appendix, which cost, paid by appellants, is said to have been $31,850.15. Federal Rule of Appellate Procedure (FRAP) 30(b) authorizes us to impose upon a party the cost of printing material "unnecessarily" included. FRAP Rule 39(a) provides that, in the absence of an order by the court, in the case of a reversal "costs shall be taxed against the appellee."

Having considered the foregoing, we have a clear appreciation of the impossibility of determining, within reason, exactly what was or was not necessarily included in the appendix in this extended and complex litigation. We conclude that, under all of the circumstances with which we have necessarily become familiar in deciding this case, it is fair and equitable that the parties share equally the cost of printing the Combined Appendix and that otherwise each party bear its own costs. In accordance with Rule 39(a), it is so ordered.

REVERSED AND REMANDED

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal No. 83-599

ROHM AND HAAS COMPANY,
Appellee,

v.

CRYSTAL CHEMICAL COMPANY and JOE C. ELLER,
Appellants.

MILLER, *Circuit Judge*, concurring in part.

Although I agree with the majority's analysis and holding on the fraud issue, it seems appropriate to state my conclusion that, because of the unpredictability of propanil in 1957, the district court erred in granting R&H an April 4, 1957, date of conception rather than a date, concurrent with a reduction to practice, in the summer of 1957—after the May 27, 1957, date of filing of Monsanto's application, so that the Monsanto patent constitutes a 35 U.S.C. § 102(e) bar to the R&H patent. *Alpert v. Slatin*, 305 F.2d 891, 896, 134 USPQ 296, 301 (CCPA 1962).

APPENDIX C

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

717 Madison Place, N.W.
Washington, D.C. 20439

December 15, 1983

George E. Hutchinson
Clerk

Telephone: 633-6550
Area Code 202

Mr. Rudolf E. Hutz
Connolly, Bove & Lodge
P.O. Box 2207
Wilmington, Delaware 19899

RE: Rohm and Haas Company v. Crystal Chemical Company and Joe C. Eller
Appeal No. 83-599

Dear Mr. Hutz:

The Court has today granted the motion of appellee in this appeal for an extension of time to file its petition for rehearing to the extent that the petition must be filed on or before January 6, 1984.

Very truly yours,

/s/ George E. Hutchinson

cc: Ned L. Conley, Esq.

GEH:bam

APPENDIX D

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 83-599

ROHM AND HAAS COMPANY,
Appellee,

v.

CRYSTAL CHEMICAL COMPANY and JOE C. ELLER,
Appellants.

ORDER

A petition for rehearing and a suggestion for rehearing in banc having been filed in this case,

UPON CONSIDERATION THEREOF, it is Ordered by the court that the petition for rehearing be, and the same is hereby, Denied.

The suggestion for rehearing in banc is declined.

FOR THE COURT

/s/ George E. Hutchinson
GEORGE E. HUTCHINSON
Clerk

February 21, 1984

cc: Ned L. Conley
Rudolf E. Hutz

APPENDIX E

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT
717 Madison Place, N.W.
Washington, D.C. 20439

George E. Hutchinson
Clerk

Telephone 633-6550
Area Code 202

March 26, 1984

Mr. Rudolf E. Hutz
Connolly, Bove & Lodge
Post Office Box 2207
Wilmington, Delware 19899

RE: Rohm & Haas Company v.
Crystal Chemical Company, et al.
Appeal No. 83-599

Dear Mr. Hutz:

Pursuant to motion, issuance of the mandate in the above-captioned appeal has been further stayed to and including May 21, 1984 in order that appellee may have adequate time to complete and file its application for writ of certiorari to the Supreme Court.

FOR THE COURT

/s/ [Illegible]
Clerk

cc: Mr. Ned L. Conley

GEH:ejc

APPENDIX F

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

Civil Action No. 74-H-790
(Consolidated with H-80-2552)

ROHM AND HAAS COMPANY,
Plaintiff,

v.

DAWSON CHEMICAL COMPANY, INC., *et al.*,
Defendants.

[Filed Nov. 23, 1982]

FINAL JUDGMENT

This —— day of November, A.D., 1982, the Court having entered its Findings of Fact and Conclusions of Law herein on October 27, 1982, it is hereby ORDERED, ADJUDGED, and DECREED by the Court as follows:

1. The Court has jurisdiction of the parties and the subject matter of this action.

2. Plaintiff, Rohm and Haas Company ("Rohm and Haas") is and has been the sole owner of United States Patent 3,816,092 (the "Wilson patent"), with the right to recover for infringement thereof, since the Wilson patent issued on June 11, 1974.

3. The Wilson patent describes and claims inventions which satisfy all the requirements of 35 U.S.C. §§ 101-103 of utiilty, novelty, and nonobviousness. The Wilson

patent specification and claims further meet all requirements of 35 U.S.C. § 112, and said patent, and each and every claim thereof, are each good and valid in law and are enforceable against infringers thereof. The Wilson patent was not obtained by fraud or inequitable conduct, and it has not been misused by Rohm and Haas.

4. Defendants, and each of them, have infringed claims 1-3, 6, and 8-12 of the Wilson patent by selling, 3, 4-dichloropropionanilide ("propanil") for use in the United States as a selective post-emergent herbicide. Propanil is not a staple article or commodity of commerce suitable for substantial noninfringing use, and there is no use for propanil except in the methods claimed in the Wilson patent. Defendants' sales of propanil since the issuance of the Wilson patent constitute both active inducement of infringement within the meaning of 35 U.S.C. § 271(b) and contributory infringement within the meaning of 35 U.S.C. § 271(c).

5. Judgment be and it is hereby entered in favor of Rohm and Haas and against defendant, the American Rice Growers Exchange ("ARGE"), in the amount of Two Million Seven Hundred Thirty-One Thousand Nine Hundred Seventeen Dollars ($2,731,917.00), together with prejudgment interest thereon of six percent (6%) per year in the amount of Six Hundred Eighty-Two Thousand Eight Hundred Ninety and 32/100 Dollars ($682,890.32) for a total sum of Three Million Four Hundred Fourteen Thousand Eight Hundred Seven and 32/100 Dollars ($3,414,807.32).

6. Judgment be and it is hereby entered in favor of Rohm and Haas and against defendant, Crystal Chemical Company ("Crystal"), and defendant, Joe Eller ("Eller"), in the amount of Four Million Twenty-Three Thousand One Hundred Fourteen and No/100 Dollars ($4,023,114.00) together with prejudgment interest thereon of six percent (6%) per year in the amount of

One Million One Hundred Twenty-Five Thousand Six Hundred Ninety and 32/100 Dollars ($1,125,690.32) for a total sum of Five Million One Hundred Forty-Eight Thousand Eight Hundred Four and 32/100 Dollars ($5,148,804.32).

7. Since ARGE purchased from Crystal and Eller all of the infringing propanil product which it later resold, Rohm and Haas is entitled to collect only once from any of ARGE, Crystal, or Eller for the sales of such products.

8. The aforesaid infringements by defendants were not willful or wanton and this is not an exceptional case within the meaning of 35 U.S.C. §§ 284 and 285. Consequently, defendants shall not be required to pay increased damages or the fees of Rohm and Haas' attorneys.

9. Defendants, and each of them, and their officers, attorneys, agents, employees, servants, and those in active concert or participation with them, and each of them, who receive actual notice hereof, are hereby permanently restrained and enjoined from in any manner actively inducing infringement of or contributorily infringing, and from aiding, assisting or abetting others to actively induce or contributorily infringe, any claim of the Wilson patent.

10. Defendants' counterclaims are lacking on both factual and legal support, and are dismissed with prejudice.

11. Rohm and Haas is entitled to recover its costs herein. Said costs, for which each defendant is jointly and severally liable, are to be determined by the Court upon presentation of a Bill of Costs within twenty (20) days from the date the issues herein have been finally disposed of by appeal or otherwise.

12. The jurisdiction of this Court continues for the purpose of making any further Orders necessary or proper relating to this Judgment.

DONE at Houston, Texas, this 23rd day of November, 1982.

/s/ Carl O. Bue, Jr.
United States District Judge

Approved as to Form:

By: /s/ James C. Winters
JAMES C. WINTERS
David E. Arnold
WINTERS, DEATON & BRIGGS
9055 Katy Freeway, Suite 310
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APPENDIX G

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal No. 83-599

ROHM & HAAS COMPANY,
Appellee,

v.

CRYSTAL CHEMICAL COMPANY and JOE C. ELLER,
Appellants.

Before RICH, KASHIWA, MILLER, SMITH, and NIES, *Circuit Judges.*

ORDER

Crystal Chemical Company and Joe C. Eller (hereinafter Crystal), appellants, have filed:

(1) Appellants' Application for Attorney Fees and Expenses Incurred on Appeal Pursuant to 35 U.S.C. § 285.

(2) Appellants' Motion for Costs on Appeal Pursuant to FRAP Rule 39 and for Reconsideration of Assessment of Costs.

We consider these two matters seriatim.

I. *Attorney Fees*

The application filed December 21, 1983, for attorney fees and expenses incurred *on the appeal*, decided by our opinion at 722 F.2d 1556, 220 USPQ 289 (Fed. Cir. 1983), has been considered. Although appellee Rohm & Haas Company (R&H) was not directed by us to re-

spond under Federal Circuit Local Rule 20,[1] its opposition to the application has been considered, as have Crystal's reply to the opposition and R&H's response to the reply, both also unsolicited. In the future, however, parties before this court will be expected to adhere to the rule.

Crystal's motion, filed pursuant to Rule 20, submits that 35 USC 285 ("The court in exceptional cases may award reasonable attorney fees to the prevailing party.") authorizes this court to award attorney fees for an appeal, and that the "exceptional" circumstances of this case merit such an award. For the reasons which follow, we decline Crystal's application for attorney fees, and its motion is hereby denied.

Crystal maintains that this is an exceptional case under § 285 because of our holding that the R&H patent in suit was invalid due to uncured "fraud in the patent office" by R&H during its prosecution of the application for the patent in the U.S. Patent and Trademark Office (PTO). In addition to fraud in the PTO, Crystal alleges that "Rohm and Haas' conduct during this appeal has unnecessarily increased the attorney fees, expenses and costs." These increased costs are attributed largely to an alleged attempt by R&H "to snow this Court with a 'mountain of largely irrelevant' record designations," and to alleged attempts by R&H to "frustrate presentation of this case and drive up" expenses.

R&H denies the allegations of improper actions in its conduct of the appeal and that its actions in the PTO render the case exceptional. As to the latter, R&H submits that it attempted to cure earlier misrepresentations

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[1] Rule 20(a)(1) states in part that the "court may award attorney fees and expenses" and that "[n]o response shall be filed to an application unless directed by the court, but no application will be granted without an opportunity to submit a response." Although the rule was revised effective February 1, 1984, the quoted language above was unchanged.

in the PTO by subsequently disclosing all of its relevant experimental data to the PTO. Our earlier opinion held, however, that the attempted cure by R&H of its intentional material misrepresentation was "insufficient as a matter of law," 722 F.2d at 1573, 220 USPQ at 302.

The awarding of attorney fees under § 285 for an "exceptional" *appeal* is a question of first impression in this court. It is also an issue that was rarely addressed by other circuits. Because of these circumstances, we first review the evolution of the statutory and case law on this subject and examine its public policy underpinnings, before considering the merits of Crystal's application for attorney fees.

The federal courts of the United States early adopted what has become known as the "American Rule" in the handling of attorney fee requests. Unlike countries which follow the "English Rule," our courts do not routinely assess attorney fees against the losing party. The American Rule was recognized by the Supreme Court as early as 1796 in *Arcambel* v. *Wiseman*, 3 U.S. (3 Dall.) 306, and, simply put, proscribes the award of fees absent statutory authorization or particularly compelling circumstances. The policy behind the Rule is fundamental —to avoid penalizing a party "for merely defending or prosecuting a lawsuit." *Fleischmann Distilling Corp.* v. *Maier Brewing Co.*, 386 U.S. 714, 718 (1967).

The colonial courts in America frequently adopted the English Rule. Colonial and, later, state legislatures did, however, regulate this practice, by prohibiting the award of fees, or in some instances by adopting specified fee limits as noted in *Day* v. *Woodworth*, 54 U.S. (13 How.) 363, 372 (1851). Early federal statutes authorized the federal courts to adopt the attorney fee practice of their respective states. Act of September 29, 1789, § 2, 1 Stat. 93. Provisions for the award of attorney fees in federal law is a more modern occurrence.

The trend in statutory evolution since the mid-1800's has been toward specific authorization for the award of attorney fees. For example, the Interstate Commerce Act of 1887, 24 Stat. 379; the Clayton Act of 1914, 15 USC 15; and the Toxic Substances Control Act of 1976, 15 USC 2618(d) have all contained such provisions. Many of these statutes allow the award of attorney fees for the purpose of encouraging suits to vindicate congressional policy by "private attorneys general." Notwithstanding the general American policy, particular circumstances have been held to justify an equitable award of attorney fees absent explicit statutory authorization. Such circumstances include instances involving a party acting in contempt or bad faith, or where a contractual agreement for fees existed between parties. See generally, Derfner and Wolf, *Court Awarded Attorney Fees*, ¶ 1.02 (1983).

Other statutory provisions have been enacted so as to further equitable considerations, in suits where encouragement of citizen suits is not applicable, as in the case of the present patent statute, § 285, and its predecessor for the purpose of enabling a court to prevent gross injustice.

Prior to 1946, the Supreme Court, following the American Rule, had held that the award of attorney fees based upon equitable considerations was not available in patent cases.[2] However, in that year Congress amended § 4921 of the Revised Statutes to alter the type of damages recoverable for infringement, and added an attorney fee provision to that section:

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[2] See for example, *Day*, supra; *Teese* v. *Huntingdon*, 64 U.S. (23 How.) 2, 8, (1859) ("Counsel fees are not a proper element for the consideration of the jury in the estimation of damages in actions for the infringement of a patent right."); *Philp* v. *Nock*, 84 U.S. (17 Wall.) 460 (1873); and *Parks* v. *Booth*, 102 U.S. 96 (1880).

> The court may in its discretion award reasonable attorney's fees to the prevailing party upon the entry of judgment on any patent case. . . .[3]

The Senate Report concerning this provision noted its applicability to prevailing patentees as well as to prevailing alleged infringers, and emphasized that the award should not become "an ordinary thing":

> It is not contemplated that the recovery of attorney's fees will become an ordinary thing in patent suits, but the discretion given the court in this respect, in addition to the present discretion to award triple damages, will discourage infringement of a patent by anyone thinking that all he would be required to pay if he loses the suit would be a royalty. The *provision is also made general so as to enable the court to prevent a gross injustice to an alleged infringer.* [Emphasis added.][4]

Subsequent to the 1946 amendments, attorney fee awards were granted by the courts, in their discretion, primarily upon findings of extraordinary circumstances. An early and leading decision ably summarized the policy behind this statutory waiver of the American Rule for attorney fees in the patent law context:

> Thus, the payment of attorney's fees for the victor is not to be regarded as a penalty for failure to win a patent infringement suit. *The exercise of discretion* in favor of such an allowance *should be bottomed upon* a finding of *unfairness or bad faith in the conduct of the losing party*, or some other equitable consideration of similar force, *which makes it grossly unfair that the winner of the particular law suit be left to bear the burden of his own counsel*

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[3] Act of August 1, 1946, § 1, 60 Stat. 778, 35 USC 70 (1946 ed.).

[4] S. Rep. No. 1503, 79th Cong., 2d Sess. (1946), *reprinted in* 1946 U.S. Code Congressional Service 1386, 1387.

> *fees* which prevailing litigants normally bear. [Emphasis added.] [5]

The next and most recent revision of the pertinent section of the patent statutes, the Patent Act of 1952, codified the attorney fee provision in 35 USC 285, which omits explicit reference to the court's discretion but adds the qualifier that the court *may* award reasonable attorney fees *in exceptional cases.*" The Revision Note to this section, as restated later by its author, shows that:

> Section 285, providing for the recovery of attorney fees by the prevailing party, is substantially the same as the corresponding sentence of the old statute, with the addition of "in exceptional cases" to express the intention of the old statute as shown by its legislative history and as interpreted by the courts.[6]

Cases decided under § 285 have noted that "the substitution of the phrase 'in exceptional cases' has not done

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[5] *Park-In Theatres, Inc.* v. *Perkins*, 190 F.2d 137, 142, 90 USPQ 163, 167 (9th Cir. 1951). Also, *see, e.g., American Chain & Cable Co.* v. *Rochester Ropes*, 199 F.2d 325, 330, 95 USPQ 115, 119 (4th Cir. 1952) ("the discretion should not be exercised except in situations involving vexatious and unjustified litigation on the part of the patentee") (reversed with respect to counsel fees award to alleged infringer); *Laufenberg, Inc.* v. *Goldblatt Bros., Inc.*, 187 F.2d 823, 825, 89 USPQ 5, 6 (7th Cir. 1951) ("An award of attorney's fees under R.S. § 4921 is not the usual or customary procedure in a patent suit . . . . Other courts have said that such fees may be awarded to prevent gross injustice . . . and that the statute should be invoked only where vexatious or unjustified litigation is shown [citations omitted]") (affirming denial of award to alleged infringer); and *Lincoln Electric Co.* v. *Linde Air Products Co.*, 74 F. Supp. 293, 294, 75 USPQ 267, 267-68 (N.D. Ohio 1947) ("It is apparent from the wording of the statute and its history that an award of attorneys' fees should not be made in an ordinary case. The court is invested with discretionary power where it is necessary to prevent gross injustice.").

[6] P. J. Federico, Commentary on the New Patent Act, Title 35, United States Code Annotated, page 1, at 56.

away with the discretionary feature." *Hoge Warren Zimmerman Co.* v. *Nourse & Co.*, 293 F.2d 779, 783, 130 USPQ 382, 386 (6th Cir. 1961).

Cases awarding attorney fees to prevailing patentees have typically found "exceptional" circumstances in willful and deliberate infringement by an infringer, or in the prolongation of litigation in bad faith.[7] When prevailing alleged infringers are awarded attorney fees, "exceptional" cases have involved litigation in bad faith by the patentee, or fraud or other inequitable conduct during prosecution before the PTO.[8] We are also cognizant of the frequently-cited policy considerations in support of the award of attorney fees to a party who succeeds in invalidating "fraudulent" patents, *cf. True Temper Corp.* v. *CF&I Steel Corp.*, 601 F.2d 495, 509, 202 USPQ 412, 423 (10th Cir. 1979); and *Monolith Portland Midwest Co.* v. *Kaiser Aluminum & Chemical Co.*, 407 F.2d 288, 294, 160 USPQ 577, 581 (9th Cir. 1969). We support this proposition only to the extent that a prevailing alleged infringer should be awarded attorney fees only when it would be unjust not to make such an award.

Neither § 285 nor its legislative history distinguishes between awarding attorney fees in the district court and in the appellate court. We recognize that the district court is the forum in which requests for attorney fees are almost invariably made. We also recognize that the American rule against the award of attorney fees, in the absence of a statute or compelling circumstances, developed in order to avoid penalizing parties for asserting

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[7] *See, e.g., Milgo Electric Corp.* v. *United Business Communications, Inc.*, 623 F.2d 645, 206 USPQ 481 (10th Cir. 1980). *See also* Alan M. Ahart, *Attorneys' Fees: the Patent Experience*, 57 J. Pat. Office Soc. 608 (1975); and 5 D. Chisum, *Patents*, § 20.03[4] at note 99, and accompanying text, for an extensive list of case citations.

[8] See for example, *Colortronic Reinhard & Co.* v. *Plastic Controls, Inc.*, 668 F.2d 1, 213 USPQ 801 (1st Cir. 1981). See also Chisum, *ibid.*, § 20.03[4] at note 103 and accompanying text.

their legal rights. In section 285 we have an exception to the American rule, and it was enacted to further a different policy, that of preventing injustice to a party involved in a patent suit, as detailed above. We construe the language of § 285 as applicable to cases in which the appeal itself is exceptional, in furtherance of the latter policy.[9]

There exists limited judicial precedent in support of our ability to award attorney fees under § 285. For example, Crystal relies on *Tidewater Patent Development Co.* v. *Kitchen*, 371 F.2d 1004, 152 USPQ 36 (4th Cir. 1966), *modified in part and pet. for reh. denied*, 371 F.2d 1013, 152 USPQ 656, *cert. denied*, 389 U.S. 821 (1967). In *Tidewater*, the Fourth Circuit reversed a trial court which had held the patent in suit valid and had found infringement, and declared the case "exceptional" under § 285 because the patentee had brought suit on a patent that had been "conclusively" demonstrated to be invalid in two other lawsuits. The Fourth Circuit stated that "Whether or not Tidewater had the naked right to relitigate, . . . to sue again in the circumstances was an abuse of that right, especially in seeking to recover on grounds renounced [previously] . . . . To leave appellants . . . to bear the expense of defending Tidewater's accusations of infringement upon these facts would be to saddle them with an unjust hardship."[10] The Fourth Circuit

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[9] We reject R&H's contention that such an award would be "directly contrary to [this] court's pronouncement" in *Stevenson* v. *Sears, Roebuck & Co.*, 713 F.2d 205, 218 USPQ 969 (Fed. Cir. 1983). *Stevenson* was concerned with the findings upon which the trial court could award attorney fees, and did not address the question of awarding attorney fees for the handling of the appeal.

[10] 371 F.2d at 1013, 152 USPQ at 43. Although *Tidewater* predates [*Blonder*] [*]-*Tongue Laboratories* v. *University of Illinois Foundation*, 402 U.S. 313 (1971), its rationale is instructive here, i.e., the Fourth Circuit awarded attorney fees when the patentee knew, or should have known that its patent was invalid.

[*] The above correction was made by order of the court dated June 8, 1984.

accordingly remanded the case with instructions to the trial court to fix the amount of fees for attorneys' services in proceedings at the trial *and appellate* levels.

The Tenth Circuit, in contrast, however, has deferred to the trial court by remanding for a determination as to whether attorney fees were merited in a particular case.[11] Although the holding of unenforceability based on misconduct at the PTO was affirmed, the appeals court could not determine whether the trial court had considered that misconduct in its decision to deny attorney fees to the alleged infringer. The Tenth Circuit did assert that "this is a matter which the trial court ought to determine in the first instance." [12] In accordance with that decision, R&H argues that it is not the function of an appellate court to decide applications for fees under § 285.

To date, our experience, in this court with the award of attorney fees under § 285, although limited, is representative of the developed case law for this section of the Patent Act. None of the cases so far has dealt with attorney fees on the appeal. We have upheld a district court's awarding of attorney fees under § 285 to patentees where willful infringement had been proved. *Rosemount, Inc.* v. *Beckman Instruments, Inc.*, 727 F.2d 1540, 221 UCPQ 1 (Fed. Cir. 1984); and *Lam, Inc.* v. *Johns-Manville Corp.*, 718 F.2d 1056, 219 USPQ 670 (Fed. Cir. 1983). Section 285 also permits the prevailing party to recover certain disbursements incurred during preparation for a case. *Central Soya Co.* v. *Geo. A. Hormel & Co.*, 723 F.2d 1573, 220 USPQ 490 (Fed. Cir. 1983).

Attorney fee awards have also been affirmed by this court when the basis for finding the case to be "exceptional" was "fraud" in procuring the patent sued upon

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[11] *True Temper Corp.* v. *CF&I Steel Corp.*, 601 F.2d 495, 202 USPQ 412 (10th Cir. 1979).

[12] *Ibid.*, 601 F.2d at 509, 202 USPQ at 423.

as well as misconduct during suit and a bad faith assertion of infringement. *Hughes* v. *Novi American, Inc.*, 724 F.2d 122, 125, 220 USPQ 707, 710 (Fed. Cir. 1984). Additionally, we have held that cases may be deemed exceptional for reasons other than inequitable conduct during prosecution, *Orthopedic Equipment Co.* v. *All Orthopedic Appliances*, 707 F.2d 1376, 1384, 217 USPQ 1281, 1287 (Fed. Cir. 1983), such as persisting with a suit in the face of knowledge that the asserted patent is invalid, *Hughes*, supra, or "some finding of unfairness, bad faith, or inequitable conduct on the part of" a patentee unsuccessfully bringing an infringement suit, *Stevenson* (supra note 9).

We have affirmed the denial of attorney fees in several cases as well. For instance, the denial of fees has been affirmed on the basis that a motion, although meritless, was neither frivolous nor brought only for harassment or delay. *CTS Corp.* v. *Piher International Corp.*, 727 F.2d 1550, 221 USPQ 11 (Fed. Cir. 1984). *See also*, *Stickle* v. *Heublein, Inc.*, 716 F.2d 1550, 1564, 219 USPQ 377, 388 (Fed. Cir. 1983), in which an attorney fee award was vacated because the record did not show that numerous defenses had been used vexa[t]iously [*] or for dilatory purposes. Also in *Stickle*, part of the award related to work on non-patent issues, the fees for which are not allowable under § 285.

On the basis of the preceding review of the state of the law regarding the award of attorney fees under § 285, we now address the present case. We recognize that our previous holding on the merits, that, as a matter of law, R&H had not cured its earlier fraud in the prosecution of the application for the patent asserted on appeal, breaks new ground on the subject of fraud in the PTO and sets new standards in this area of the law. Under the circumstances of this case, we cannot hold that R&H's failure to follow this new standard makes it unjust for

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[*] The above correction was made by the court by order of June 8, 1984.

Crystal to bear its own counsel fees on this appeal from the lower court's decision in favor of R&H. We furthermore do not agree with Crystal that the record designations of R&H have "snowed" this court with a mountain of irrelevant information, nor do we feel that the conduct of R&H has frustrated presentation of this case.

We hold, therefore, that Crystal shall bear its own attorney fees on this appeal and its request is denied. We do not decide here whether or not attorney fees may be warranted for the trial below, because considerations other than the invalidity of the R&H patent may bear on the propriety of awarding attorney fees, and we cannot be as familiar with the proceedings below as is the district court. Thus, any question of attorney fees below must be decided, in the first instance, by that court, exercising its own discretion.

II. *Costs*

Crystal's "Motion for Costs on Appeal Pursuant to FRAP Rule 39 and for Reconsideration of the Assessment of Costs" must be separated into its two parts: a motion for costs on appeal and a motion for reconsideration. The first part was anticipated by our decision on the merits in this litigation wherein we ended our opinion with a ruling on costs, as Crystal is well aware since its motion quotes what we said, which is as follows:

> We conclude that, under all of the circumstances with which we have necessarily become familiar in deciding this case, it is fair and equitable that the parties share equally the cost of printing the Combined Appendix and that otherwise each party bear its own costs. In accordance with Rule 39(a), it is so ordered. [722 F.2d 1556, 1573; 220 USPQ 289, 303.]

That was a decision under FRAP Rule 39 on the question of who should bear the costs—costs were not to be assessed against either party.

With respect to costs on appeal, therefore, what the motion now before us actually presents is a request for reconsideration of that decision. Reconsideration is granted to the extent that the several arguments presented in Crystal's motion papers and the response thereto by R&H have been carefully reviewed. In all other respects Crystal's motion is denied.

CONCLUSION

In view of the foregoing, it is HEREBY ORDERED THAT appellants' application for attorney fees and motion for costs on appeal, as recited at the beginning hereof, are DENIED

FOR THE COURT

/s/ Giles S. Rich
GILES S. RICH
Circuit Judge

29 May 1984
Date

APPENDIX H

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT
717 Madison Place, N.W.
Washington, D.C. 20439

George E. Hutchinson
Clerk

Telephone: 633-6550
Area Code 202

June 8, 1984

Mr. Rudolf E. Hutz
Connolly, Bove and Lodge
PO Box 2207
Wilmington, DE 19899

Rohm and Haas Co.
v. Crystal Chemical Co. et al
Appeal No. 83-599

Dear Sir:

The motion of appellee for a further stay of mandate to and including July 5, 1984, was granted today.

FOR THE COURT

/s/ Dorothy J. Myers
Chief Deputy Clerk

m
CC: Mr. Ned L. Conley